# Developing a Construct-Valid Measure of Workplace Aggression

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Oren Reed Shewach

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## Abstract

Conceptualizations of workplace aggression predominantly converge to suggest that intent to harm others is a necessary feature of aggression (Hershcovis et al., 2007; Jex & Bayne, 2017; Neuman & Baron, 2005). However, inspection of workplace aggression scales suggests that many items do not contain face-validity with respect to inclusion of intent to harm. In a series of four studies, this dissertation examines the effect of inclusion of intent to harm on workplace aggression's psychometric properties, with the ultimate goal to develop a construct-valid measure of aggression. In addition to the focus on intent to harm, this research evaluates the feature of response perspective (i.e., experienced versus enacted aggression) within aggression's measurement, as well as aggression's nomological network and factor structure.

First, a general sample of working adults is surveyed to judge the degree to which existing workplace aggression scales contain the feature of intent to harm. It is found that existing workplace aggression scales primarily do not contain sufficient levels of intent to harm, indicating a disconnect between conceptual definition and operational measurement of aggression. Second, results from another working sample suggest that inclusion of intent to harm in aggression scales has substantial implications for aggression's occurrence rate as well as its factor structure. Specifically, prior research that does not assess intent to harm overestimates the frequency of aggression. Third, it is found that workplace aggression's external correlations are also overestimated when failing to include intent to harm in measures of aggression. It was also found that aggression without intent is highly correlated with a related construct, counterproductive

work behavior (CWB), whereas aggression measured with intent is empirically distinguished from CWB.

Using data from the second and third studies, a construct-valid workplace aggression scale is devised, coined the Intentional Workplace Aggression Scale (IWAS). The IWAS displayed stronger relationships with affective constructs such as trait anger and emotional stability than the situational variables of job satisfaction and organizational justice perceptions. Additionally, workplace aggression consistently displayed three lower-order facets: verbal aggression, physical aggression, and social undermining. The fourth study represented a cross-validation effort for IWAS findings and was undertaken in a sample of Korean firefighters. Though to a smaller magnitude than in the previous study, findings surrounding the influence of intent to harm on aggression's occurrence rate and nomological network were replicated. This study also showed moderate support for the factor structure of the IWAS. Finally, findings across multiple studies indicate that among the same individuals, workplace aggression from the victim perspective and the aggressor perspective are moderately to strongly related.

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## Overview

Workplace aggression inflicts harm on employees across the U.S. through both psychological abuse and physical aggression (Glomb & Liao, 2003). A growing consciousness of the harm inflicted upon employees when a coworker becomes aggressive has contributed to increased interest in studying the topic of workplace aggression (Manier, Kelloway, & Francis, 2017). Research on workplace aggression (aggression) has increased exponentially in the past two decades. Major streams of research have focused on dispositional and environmental predictors of workplace aggression (Hershcovis et al., 2007; Penney, Martir, & Bok, 2017), consequences of workplace aggression at the individual and organizational levels (see Manier et al., 2017 for a review), and various interventions to combat workplace aggression (see review by Leiter, Peck, & Baccardax, 2017). Another major stream of research consists of splitting aggression into more fine-grained facets such as harassment, bullying, and social undermining. This type of research investigates antecedents and consequences of aggression facets in a largely piece-meal approach by individual construct, which has led to an aggression literature that is often fractured by its facets.

With the increase in study of workplace aggression has come numerous conceptualizations of workplace aggression. Diverse conceptualizations of aggression can lead to diverse measurement, thus adding variability to our stream of knowledge surrounding the construct. This is not inherently good or bad; rather, this calls attention to the fact that any interpretation of workplace aggression research must be made with respect to its measurement, as with all psychological research. However, conceptualizations of workplace aggression predominantly converge to suggest that

intent to harm others is a necessary feature of aggression (Hershcovis et al., 2007; Jex & Bayne, 2017; Neuman & Baron, 2005). Despite diverse measurement approaches, manual inspection of workplace aggression scales suggests that many items do not contain face-validity with respect to inclusion of intent to harm. In this dissertation, the effect of inclusion of intent to harm within workplace aggression's measurement is investigated, with the ultimate goal of the development of a construct-valid measure of aggression. In addition to researching the role of intent to harm, this dissertation evaluates the feature of response perspective (i.e., experienced versus enacted aggression) within aggression's measurement, as well as aggression's nomological network and factor structure.

The first study in this program of research systematically evaluates the extent to which existing workplace aggression scales and individual items measure intent to harm others. If existing scales contain sufficient levels of measuring the notion of intent to harm, this would suggest that there are not issues with the construct-validity of workplace aggression's measurement. Alternatively, if there are insufficient levels of measurement of intent to harm, this would suggest a disconnect between common operational definitions of aggression and aggression's measurement.

Finding insufficient levels of intent to harm in existing scales, the second study seeks to examine the extent to which intent to harm affects workplace aggression's endorsement rate and factor structure. Results from this study allow for evaluation of the extent to which prior research has over- or under-estimated the prevalence of workplace aggression. Furthermore, it is common for aggression research to focus on either the victim perspective (i.e., experienced aggression) or the aggressor perspective (i.e., enacted aggression). For example, there exists an entire literature that exclusively

examines aggression from the victim perspective called “victimization” (Aquino & Thau, 2009). As such, this study collects aggression data from both the victim (i.e., experienced aggression) and aggressor (i.e., enacted aggression) response perspectives to begin examining the inter-relatedness between the two perspectives.

The third study turns to workplace aggression’s nomological network, examining how workplace aggression’s external correlates are affected when intent to harm is either included or excluded from aggression’s measurement. This study also examines the effect of response perspective on aggression’s nomological network. The second portion of this study uses data collected on aggression’s factor structure, item discrimination values, and rates of endorsement for specific aggressive behaviors in order to form a novel, construct-valid measure of workplace aggression. Upon completion of scale development, the scale’s psychometric properties are examined extensively. Specifically, this study evaluates the degree to which workplace aggression is distinguished from a related construct- counterproductive work behavior- and the role intent to harm plays in distinguishing these two constructs. The fourth and final study in this dissertation conducts a cross-validation study of this newly devised scale within a South Korean firefighter sample. The third and fourth studies address the extent to which construct-proliferation within the aggression literature is useful. This is accomplished by examining the lower-order facets of aggression and whether they are differentiated from one another from a prediction standpoint.

## Defining Workplace Aggression

In terms of defining workplace aggression, there exists some agreement across conceptual definitions of workplace aggression, although definitions of aggression are not analogous. The following section will examine common conceptualizations of workplace aggression and contrast them with a larger body of literature on counterproductive work behavior.

One central definition of workplace aggression is, “any behavior initiated by employees that is intended to harm an individual within their organization or the organization itself and the target is motivated to avoid” (Hershcovis et al., 2007, p.229). This definition is from the largest meta-analysis on workplace aggression to date, and contains the following elements: A) aggression is a behavior and not an outcome or an intention to engage in a behavior, B) the behavior involves an intention to harm, C) this harm can be inflicted on *either* individual(s) or the organization, and (d) the target of aggression is motivated to avoid this behavior. Another prominent definition of aggression is, “any form of behavior directed by one or more persons in a workplace toward the goal of harming one or more others in that workplace (or the entire organization) in ways that the intended targets are motivated to avoid” (Neuman & Baron, 2005, p. 18). This definition includes the same four elements as the Hershcovis and colleagues definition (behavior, intent to harm, individuals or an organization, target motivated to avoid). In fact, there are no substantive differences between these two definitions.

Most recently, Jex and Bayne (2017) define workplace aggression as, “forms of interpersonal mistreatment that are (1) relatively severe, and (2) where there is a clear

intent on the part of the perpetrator to harm the victim of such behaviors" (p. 9). This definition also conceptualizes aggression as a behavior with intent to harm, whereas it restricts aggression to behaviors directed at individuals and not the organization. This definition also imposes a severity threshold, stating that behaviors must be relatively severe in order to be considered aggression. This is an important distinction, because many current scales of aggression include behaviors that are unlikely to be considered severe such as failing to make eye contact with a coworker. While this severity threshold is intuitively appealing, in practice determining out of all possible behaviors which ones are severe enough to constitute aggression would be very difficult and largely subjective. It is my view that a definition of workplace aggression without a specification of severity of the behavior is sufficient, because even relatively minor behaviors can inflict non-trivial harm upon others. Jex and Bayne also do not view target-avoidance as an essential factor defining aggression.

There is also definitional disagreement as to whether workplace aggression can include behaviors targeted at A) individuals only or B) individuals and the organization itself. Although their definition includes aggression directed towards the organization itself, Neuman and Baron (2005) clarify: "As relates to the targets of aggression, our definition focuses on interpersonal aggression- actions that are intended to harm another living being (i.e., another person). This would of course exclude actions against inanimate objects, assuming that the only *intent* is to damage those objects…if the ultimate aim is to harm another person through the use (or abuse) of an inanimate object, this would in fact constitute an act of aggression" (p. 17-18). Thus, aggression can have the consequence of damaging objects in an organization or harming the organization by

means of individuals within it. These actions have the potential to harm the organization indirectly, but the direct intended consequence is harm inflicted upon individuals within the organization. As such, this work does not view "organization-as-target" as a defining feature of aggression, although it does not preclude the possibility that the organization may be harmed indirectly via interpersonal aggression.

This dissertation conceptualizes aggression in between the construct space of Neuman and Baron (2005) and Jex and Bayne (2017). Workplace aggression is defined as *any behavior initiated by employees that is intended to harm an individual or group within their organization*. Specifically, the necessary features of aggression are viewed as *behaviors*, containing *intent to harm*, that intended to inflict harm upon *individuals*. The target's motivation to avoid the behavior is not included in this definition of aggression, nor is a severity threshold due to the issues discussed above. Regarding the target-avoidance, Neuman and Baron (2005) note that this target-avoidance ensures that the behavior is not welcomed by the victims, and that someone who enjoys being hurt or humiliated is not considered a victim of aggression. However, if the target of aggression is aware that a behavior was intended to inflict harm on them (even though it did not), this knowledge can be enough to cause negative affect in the target. Additionally, the typical worker would not derive enjoyment from behaviors labeled as aggressive; this is quite likely limited to masochists. For these reasons, intent to harm is viewed as a central component of aggression but target-avoidance is not.

To clarify the construct of workplace aggression, it is useful to contrast with a similar domain- counterproductive work behavior. Table 1 presents several prominent definitions of workplace aggression and counterproductive work behavior.

Counterproductive work behavior (CWB) is a more well-researched construct than workplace aggression. As such, clear distinction of workplace aggression from the more-studied domain of CWB is useful when determining what may already be known about workplace aggression. One prominent definition of CWB is, “any intentional behavior on the part of an organization member viewed by the organization as contrary to its legitimate interests” (Sackett & Devore, 2001, p.145). Similarly, Ones and Dilchert (2013) define CWB as, “scalable actions and behaviors that employees engage in that detract from organizational goals or well-being and include behaviors that bring about undesirable consequences for the organization or its stakeholders” (p. 645). These definitions are similar in that they both: A) define CWB as actions or behaviors, and B) are contrary to the organization’s goals or interests. The Sackett and Devore definition specifies that these behaviors are intentional, whereas the Ones and Dilchert definition does not. Thus, the former definition would exclude accidents whereas the latter would not, as accidents may be contrary to the organization’s interests but are not intentional.

Robinson and Bennett (1995) define CWB as, “Voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization, its members, or both” (p. 556). This definition refers to violating organizational norms rather than being contrary to organizational goals or interests. Violating organizational norms is slightly narrower, because there may be organizational norms that are contrary to organizational goals or interests which may not be considered CWB by this definition (e.g., if it is the norm in a production environment to violate safety standards). However, this definition does include intent by specifying “voluntary behavior.” Overall, definitions of CWB tend to (but do not universally) include the

components of A) intentional behaviors, and B) specification that the behaviors operate contrary to organizational goals/interests/norms.

When distinguishing between workplace aggression and CWB, first, there is a general though not uniform tendency to limit aggression to behaviors aimed at individuals, while CWB includes both behaviors targeting individuals and behaviors targeting the organization. In fact, this distinction between CWB-individual and CWB-organizational, put forward by Robinson and Bennett (1995), has become widely used in the CWB literature. Second, definitions of aggression tend to focus on "intent to harm", while definitions of CWB often include "intent" (or voluntary/volitional behaviors). Intent to harm, however, is not part of the definition of CWB. For example, an employee could take a break that is longer than acceptable because they stayed up too late the night before. This behavior is intentional in that the employee voluntarily took a long break, although it was not done with intent to harm the organization or other individuals, making this behavior CWB but not aggression. Thus, the other essential factor distinguishing aggression and CWB is that intent to harm is a necessary condition for workplace aggression, whereas it is not a necessary condition for CWB. It should be noted that aggression is a sub-construct within CWB. As such, if a behavior falls under the label of aggression then it is also a CWB, whereas a behavior that is labeled CWB is not necessarily also aggression.

## Operational Measurement Concerns

Workplace aggression consists of undesirable behaviors that do not frequently occur in many organizations. Because of aggression's undesirability and low base-rate, measuring

aggression comes with a set of issues that must be attended to. The following subsections outline these specific measurement concerns.

**Base Rate of Aggression.** Estimates of the base rate of workplace aggression are relatively rare and depend on many factors. These base rate estimates get cited abundantly and often make large claims about the occurrence and impact of workplace aggression. When examining the base rate of aggression, one must carefully consider how aggression was measured as well as for what time period respondents are reporting. One must also consider whether questions about specific aggressive behaviors are addressed or whether general questions are asked (i.e., “experienced physical aggression”), as specific behaviors may be more likely to elicit specific memories and accurate reporting. Response distortion is also a consideration for the base rate of aggression. Depending on survey context and one’s own preferences, some may not be comfortable indicating experience with aggressive experiences. These individuals may be more likely to respond to more minor negative behaviors that do not necessarily constitute aggression.

Schat, Frone, and Kelloway (2006) give a frequently cited estimate; they report that aggression affects an estimated 41% of working Americans each year. The telephone-based survey assessed 2,508 working adults selected from a probability sample and were asked the frequency with which “any psychological aggression” was experienced in the past year. However, questions about more specific behaviors at work were asked as well. Thirty five percent of respondents reported being shouted or screamed at in anger (with all selecting the frequency of at least “less than monthly” or above), 24% reported being insulted, 12% reported being threatened indirectly, 8%

reported threats of physical assault, and 2% reported threats with a weapon. Six percent of the same subject pool was found to have experienced any physical violence, 4% from pushing, grabbing, or slapping in anger, 4% were hit with an object, and 0.7% were attacked with a knife, gun, or other weapon. While this study did not explicitly measure intent to harm, most of the behaviors assessed do appear likely to include intent to harm.

Other sources of data report that the rate of nonfatal physical assault ranges from 1.2% (Duhart, 2001) to 5% (NCASA, 2000). Research supports the notion that men are more likely than women to commit physical aggression in the workplace (Geen, 2001; McFarlin, Fals-Stewart, Major, & Justice, 2001). Regarding non-physical aggression, a national U.S. survey that was conducted by the National Center for Addiction and Substance Abuse (NCASA) reported that 33% of respondents experienced verbal abuse at work (NCASA, 2000). Another nationally-representative survey found that 19% of respondents reported work-related harassment (NNLIC, 1993). While the estimate reported by the NCASA asked questions about multiple specific behaviors, the NNLIC survey simply asked about whether work-related harassment was experienced. Nonetheless, the two studies were addressing different behaviors, which may explain why they diverge in prevalence rates. Overall, prevalence rates of aggression depend heavily on survey methodology and severity of behaviors assessed, although workplace aggression does appear to be experienced by more than a trivial minority of workers.

The base rate of aggression is a central issue for multiple reasons. The rate of aggression at work is first and foremost an important empirical question that has implications for the health and well-being of the workforce. Thus, the evidence suggesting that anywhere from 1 to 2 out of 5 individuals experiences some form of

aggression suggests this is a topic worthy of research. This is not to say that aggression is important simply because of its frequency; certainly extremely low base-rate events (e.g., workplace homicides) need prevention-based research as well. However, workplace aggression appears to occur more frequently than one might expect and has potential to inflict harm upon workers.

Workplace aggression's base rate also displays implications for how analyses should be conducted. Should aggression (or specific types of aggression) prove to be low base-rate and display a skewed distribution, calculating correlations of aggression with other constructs may not be appropriate, as correlations rely on an assumption of normality in both variables. This issue of violation of the normality assumption in the organizational sciences was raised by O'Boyle and Aguinis (2012), who claim that job performance follows a Pareto distribution using samples of researchers, entertainers, politicians, and athletes. In a response, Beck, Beatty, and Sackett (2014) outline a number of conditions that must be met when examining job performance distributions. For example, performance measures must reflect behavior, aggregate across multiple behaviors, and include the full range of performance. The authors present data to illustrate that when these conditions are met, job performance does follow a normal distribution (Beck et al., 2014). In relation to workplace aggression, it could be the case that any single behavior (and especially the high severity behaviors) display Pareto distributions. However, when all aggressive behaviors are aggregated into a scale score, it may be the case that this distribution will normalize.

Another psychometric issue relevant to the base-rate of aggression is only applicable when aggression is measured as a dichotomous variable. This is not the case in

most aggression research nor any research using scale scores from workplace aggression inventories. Yet, some studies use single-behavior criteria when assessing aggression. When one variable is continuous and the other is dichotomous, any split from a 50-50 distribution in the dichotomous variable lowers the possible bounds of a correlation to be more narrow than +/- 1 (Cohen, 1983; Kemery, Dunlap, & Griffeth, 1988). This is particularly problematic with very low base rate events measured dichotomously such as workplace violence (measured as Yes/No). This issue should be considered any time a correlation is calculated using a dichotomous variable displaying uneven split.

**Response Perspective & Rater Issues.** Workplace aggression can be measured from both the perspective of the aggressor and the victim. Aggression measured from the victim's perspective assesses what aggressive behaviors have been experienced by an individual, whereas aggression from the aggressor's perspective assesses what aggressive behaviors have been engaged in by that individual. In this sense, the aggressor-perspective ratings are self-ratings of behavior, whereas victim-perspective ratings are ratings of others' behavior.

**General Rater-Issues.** Rater issues with regard to the victim and aggressor-perspectives will be discussed below, but one focal issue is relevant to both response perspectives. Because workplace aggression is defined with intent to harm others, it should be measured with intent to harm as well. Measuring intent from the perspective of the aggressor is straightforward: the respondent has access to intentions because they were the one engaging in these behaviors. However, intent from the perspective of the victim is an inference: the victim does not necessarily know the intentions of the aggressor. For example, the victim of aggression might infer that their supervisor has

imposed an unrealistic deadline with intent to harm him, whereas the supervisor imposed this because they were being pressured by higher-ups.

With regards to the intent issue, measures of aggressor-perspective should be viewed as “true” ratings of aggression, whereas victim-perspective ratings are perceived aggression. The method to obtain “true” ratings of victim-perspective aggression would be to match victim ratings of behaviors with the aggressors’ ratings of whether the perceived behavior was accurate and whether the aggressor intended to harm the victim. This method of collecting paired ratings of specific behaviors is unlikely to be feasible in almost any practical context. Furthermore, perceived aggression from the victim-perspective is likely the more meaningful construct in many cases and may be more predictive of subsequent psychological outcomes than paired-intent victim ratings (Aquino & Thau, 2009). It is how the victim perceives behaviors that is likely to dictate the victim’s subsequent affect rather than the true intentions behind the behavior. It is noted that this issue of an incorrect inference of intent matters the most for less severe, more subtle aggressive behaviors compared to the severe behaviors. If a victim is struck by their boss, intent behind this behavior is rather self-evident.

Workplace aggression is most frequently assessed via the victim perspective (Duffy et al., 2002; Einarsen Hoel, & Notelaers, 2009). While CWB is most commonly measured from a perpetrator’s perspective (Gruys & Sackett, 2003; Spector et al., 2006), workplace aggression research tends to focus on experienced aggression rather than perpetrated aggression (Jex & Bayne, 2017).

**Aggressor Perspective.** The primary concern for responding from the aggressor-perspective is response distortion. The typical paradigm in workplace aggression research

is to administer aggression scales and ensure participants that data is de-identified and collected for research-purposes only, thus minimizing motivation to "fake-good." However, interventions that seek to address aggression issues in organizations must consider response distortion. Survey respondents can still be ensured that data will not be de-identified and intervention efforts can be at the division- or unit-level so as to not isolate any individuals. However, even ensuring de-identification does not ensure that participants will respond honestly. Given that most aggressor-perspective scales are quite transparent and on a Likert-scale, most scales require minimal cognitive load to fake.

**Victim Perspective.** The typical other-ratings paradigm of job performance and personality has raters rate freestanding behaviors of others, whereas victim-perspective aggression has respondents rate others' behaviors that are specifically directed at the victim. For example, the respondent might rate the extent to which someone else interfered with his/her work in order to harm them. Clearly, this is not analogous to ratings of someone else's behavior not directed towards the rater (i.e., other-ratings of personality, job performance). Nonetheless, non-aggression literatures of other-ratings can still inform because any time other-ratings of behavior are made, reliability and accuracy concerns abound. Connelly and Ones (2010) conduct three large-scale meta-analyses of observers' accuracy and predictive validity of other-ratings of personality and find generally supportive evidence that other-ratings of personality are accurate. Opportunity to observe the ratee did increase rating accuracy. Furthermore, it was found that interrater reliability for the most observable traits only reached .80 when five raters were combined (Connelly & Ones, 2010). Thus, caution must be taken when interpreting victim-aggression. Despite the fact that internal consistency may be high *within*

individuals' ratings of victim-perspective aggression, ratings of the same aggressive behaviors *across* individuals are not necessarily reliable. As discussed above, victim-perspective aggression is best interpreted as perceived aggression.

Another challenge from the victim-perspective is that not all behaviors labeled as aggression are directly observable (Jex & Bayne, 2017). Aggression's facet of social undermining (Duffy et al., 2002) includes behaviors that fall into this category. For example, excluding another individual from work-related gatherings hinders the victim's ability to maintain positive interpersonal relationships. The target of this undermining need not be aware of exclusion and is likely not present when this behavior occurs. In fact, it may be the goal of the aggressor to keep knowledge of this exclusion from the victim. Duffy and colleagues Social Undermining Scale includes other behaviors that the victim may not be aware of, including spreading rumors, undermining efforts to be successful on the job, and failing to defend the victim when the victim is spoken of poorly. Depending upon the frequency of undermining behaviors that occur without the victim's knowledge, victim-perspective aggression runs the risk of being underestimated (Jex & Bayne, 2017). On the other hand, intent of the aggressor is an inference from the victim perspective, and it is possible that the victim may infer intent to harm when in fact there is none, thus over-estimating the frequency of true workplace aggression. Future research would benefit from a thorough investigation of victim and aggressor-perspective aggression, as studies of aggression and its facets primarily measure aggression from either the victim or aggressor perspective but rarely in tandem.

**Victim & Aggressor Perspective in Tandem.** There has not been large-scale research on the degree of convergence between victim and aggressor-perspective

aggression. Workplace aggression research primarily takes the perspective of the victim and examines consequences of aggression for victims. Because of the issues of perceived versus reported aggression as well as the victim's lack of opportunity to observe all behaviors by aggressors, it would be useful to study the degree of convergence across aggressor and victim-perspective aggression. A separate issue is the relationship between being the victim of aggression and the aggressor. Does aggression have a cascading effect, wherein being the victim of aggression makes an individual more likely to engage in future acts of aggression toward others? Likewise, does engaging in aggression towards coworkers or supervisors place individuals at a higher risk of being the target of aggression from others? In a rare instance of examining both response perspectives, Glomb (2002) constructed a workplace aggression scale measuring specific aggressive incidents from the perspective of the aggressor in addition to the victim. In an interview-based study, Glomb (2002) found evidence to support a reciprocal relationship between experienced and enacted aggression. In specific aggressive incidents recounted, employees reported that regardless of who was angry or engaged in the aggressive behavior first, both parties were ultimately angry, suggesting that the victim and aggressor-perspectives may be inherently intertwined. It should be noted that reciprocal or interrelated negative behaviors have been proposed and examined within similar constructs such as revenge, retaliation, and incivility (Andersson & Pearson, 1991; Aquino, Tripp, & Bies, 2001), but are much more rare within aggression research.

Turning to the broader CWB literature, Berry, Carpenter, and Barratt (2012) conducted a meta-analysis on the incremental contribution of other-reported CWB over self-reported CWB and provide data on self-other reported CWB's convergence. The

authors identify two mechanisms with potential to decrease self-other convergence: A) other-raters may not have opportunity to observe all CWBs employees engage in, and B) self-raters may underreport CWBs out of concern for organizational consequences or impression management. However, it was found that self and other ratings of CWB correlated ρ = .38 (*k* = 21, *N* = 3,503, SDρ = .18), with similar degrees of convergence for self-supervisor and self-coworker ratings. However, interpersonal CWB displayed greater convergence (ρ = .51, *k* = 9, *N* = 1,500, SDρ = .14) than organizational CWB (ρ = .35, *k* = 9, *N* = 1,500, SDρ = .18). Convergence across raters for aggression can be expected to display more similarity to estimates of CWB-I than CWB-O. A greater number of anonymity safeguards also increased the degree of self-other convergence. Interestingly, self-raters reported more CWB than other-raters (*d* = .29, *k* = 17, *N* = 2,574, *SD*d = .25). Based on this data, one might expect that victim and aggressor-perspective ratings of aggression will display non-trivial convergence, but each perspective will still contain unique pieces of information. (Berry, Carpenter, & Barratt, 2012)

**Reporting Timeframe.** One final challenge measurement challenge is the timeframe of reporting experiences with aggression. Due to the fact that some of the more severe forms of workplace aggression are low base-rate, respondents are typically asked to report instances of aggressive behaviors over a long time period (Jex & Bayne, 2017). Although not all scales' documentation includes specification of time period, identified scales ask respondents to report aggressive instances ranging from the past month (Duffy, Ganster, & Pagon, 2002) to 6 months (Barling, Rogers, & Kelloway, 2001; Einarsen & Raknes, 1997; Pai & Lee, 2011), with many measures asking over a period of six months. Inferences of intent and recollection of subtle behaviors over long

time-frames may be particularly subject to memory issues, although any reporting of behaviors over a long timeframe contains potential for recall issues.

**A Brief Review of Existing Workplace Aggression Scales**

Construct validity is defined as the extent to which a test measures what it purports to measure, and is of central concern whenever a test is to be interpreted as a measure of an attribute or trait (Cronbach & Meehl, 1955; *Technical Recommendations*, 1954). Within construct validity, content validity is defined as the extent to which scale items adequately sample the universe of content from scale's associated construct (Cronbach, 1990). The present series of studies is focused on both the content and construct validity of workplace aggression measures. Specifically, this research assesses the degree to which workplace aggression measures correspond with workplace aggression definitions. As such, content validity of existing workplace aggression measures is reviewed below.

There are a number of scales that assess workplace aggression. There are also a small number of scales that do not purport to measure workplace aggression, yet commonly get cited as measures of workplace aggression due to their conceptual similarity. The major scales of workplace aggression were all developed within the span of a few years in the late 1990's and early 2000's, and are as follows: the Workplace Aggression Scale (Neuman & Baron, 1998), the Specific Aggressive Incident Scale (Glomb, 2002), the Workplace Aggression Questionnaire (Barling, Rogers, & Kelloway, 2001), and the Workplace Aggression Research Questionnaire (Neuman & Keashly, 2004). The measures that commonly get cited as assessing workplace aggression are: the Workplace Deviance Scale (Bennett & Robinson, 2000), the Negative Acts Questionnaire

(Einarsen & Raknes, 1997), the Interpersonal Conflict at Work Scale (Spector & Jex, 1998), and the Social Undermining Scale (Duffy, Ganster, & Pagon, 2002).

Jex and Bayne (2017) recently conducted a systematic review of workplace aggression measures, consisting of discussion of specific scales as well as general aggression measurement considerations. As such, the reader is referred to this chapter for an extensive review of workplace aggression measures. However, this chapter does not include coverage of all direct measures of aggression. As such, the following subsection contains a high-level overview of each of the major scales: conceptual content measured, method of development, and distinguishing features of each scale. It is noted that with one exception (Glomb, 2002), direct measures of workplace aggression were developed with successive item creation and use without psychometrics informing scale development. Some scales were informed by previously validated scales of tangential constructs (i.e., general aggression, not specific to the workplace).

**Workplace Aggression Scale (Neuman & Baron, 1998).** This is a 40-item scale that scale authors indicate was derived from Buss's (1961) framework for classifying general aggression (physical/verbal, direct/indirect, active/passive), as well as general research on workplace aggression and workplace harassment (Geddes, 1994 and Bjorkqvist, Osterman, & Hjelt-Back, 1994 are the two studies that are cited). This scale appears to be developed rationally based on prior research as opposed to utilizing psychometrics in scale development. This scale contains a wide range of behavioral severity from mild (e.g., "Failing to deny false rumors about the target") to moderate (e.g., "Direct refusal to provide needed resources or equipment") to severe (e.g., "Attack with weapon"). The scale also measures a wide sampling of aggression facets including

physical and verbal aggression, social undermining, social undermining, and sexual aggression. This scale has a handful of items referring to counterproductivity involving destruction of company property, although all but one of these items refers to destruction of property in the context of inflicting harm upon a coworker. The one organizational aggression item is, “Intentional work slowdowns.”

**Workplace Aggression Questionnaire (Barling, Rogers, & Kelloway, 2001).** This 10-item scale was developed based on Greenberg and Barling’s (1999) questionnaire. The scale authors separated Greenberg and Barling’s questionnaire into separate workplace aggression and workplace violence scales using expert judgment. Greenberg and Barling note that no workplace aggression scale was available at the time of study, and base their scale on Straus and Gelles’s (1986) Conflict Tactics Scales, which measure verbal aggression, violence, and reasoning within the family. Barling, Rogers, and Kelloway’s scale contains behaviors primarily high-severity behaviors (e.g., “Been threatened with a gun”, “Someone tried to hit you with something”). This scale measures predominantly verbal and physical aggression, although two items assess social undermining. Interestingly, although this scale measures *workplace* aggression, one item makes reference to the household (“Been cornered or placed in a position that was difficult to get out of because of a dispute in the household unrelated to you”). This scale measures interpersonal aggression only, not organizational aggression.

**Workplace Aggression Research Questionnaire (Neuman & Keashly, 2004).** This scale is 33 items, was originally presented at a conference, and was located by the present researcher online. The present researcher has been unsuccessful in finding a copy of this scale in published literature. It has not been systematically validated and it is

currently unclear how this measure was developed. The behavioral severity ranges from mild (e.g., “Not been given the praise for which you felt entitled?”) to moderate (e.g., “Been subjected to temper tantrums when disagreeing with someone”). It covers a variety of facets within aggression such as bullying, sabotage, and social undermining. This scale measures interpersonal aggression only.

**Specific Aggressive Incident Scale (Glomb, 1998; Glomb, 2002).** This scale is conceptually distinct from the other workplace aggression scales and represents the most systematically developed of the direct measures of workplace aggression. Rather than aggregating aggression scores to assess general workplace aggression, this scale was developed for research into specific aggressive incidents in order to assess the unique antecedents, behavioral components, and consequences within specific aggressive interactions at work. A critical incidents technique was used to evaluate occurrences of workplace aggression in an open-ended fashion (Glomb, 2002). From these collected incidents, behaviors were coded and categorized, and an initial scale was developed and pilot tested on undergraduates before the scale was finalized. In its final form, this scale also contains a wide sampling of behavioral severity from mild (e.g., “avoiding another person”) to moderate (e.g., “swearing at another person”) to severe (e.g., “physically assaulting another”). This scale is primarily comprised of verbal aggression, sabotage, social undermining, and physical aggression. As with other direct measures of aggression, this scale measures interpersonal aggression only.

**Other Related Scales.** Robinson and Bennett’s (2000) workplace deviance scale is one that frequently gets cited as a measure of workplace aggression. This scale contains a number of items that do assess interpersonal aggression (e.g., “Said something

hurtful to someone at work, cursed at someone at work", "Publicly embarrassed someone at work"). The interpersonal aggression items included are primarily in the moderate severity range. However, many other items assess what is typically construed as organizational CWB (e.g., "Come in late to work without permission", "Intentionally worked slower than you could have worked", "Used an illegal drug or consumed alcohol on the job"). Use of this scale as a measure of aggression is problematic because many items assess organizational CWB that do not include intent to harm. Einarsen and Raknes (1997) Negative Acts Questionnaire is a 22-item scale that assesses workplace harassment. While this instrument is a relatively valid measure of aggression, it is not a sufficient measure of aggression because it only assesses one of aggression's facets. Of no fault to the scale authors, this is only problematic to the extent that this measure gets cited as aggression rather than harassment. Similarly, Duffy, Ganster, and Pagon's (2002) Social Undermining Scale is a measure of a facet of aggression, but not appropriately used as a measure of general aggression. Finally, Spector and Jex's (1998) Interpersonal Conflict at Work Scale (ICAWS) is a four-item scale that assesses mutually stressful interactions. This scale is unique in that it asks questions from both the victim perspective (e.g., "How often are people rude to you at work?") as well as including one item from the actor's perspective ("How often do you get into arguments with others at work"). Due to this scale's low number of items and specific focus on mutually stressful interactions, the ICAWS covers a relatively limited content domain of aggression.

## Facets of Workplace Aggression

Interestingly, some researchers have made the argument that workplace aggression (and aggression more generally) is in fact not a unitary construct and should only be studied as separate facets. For example, Geen (1991) writes:

> Does it make sense to use the [word aggression] to refer to such dissimilar events as a gangland murder, the bombing of a restaurant, a fight at a football game, and a cutting remark at a cocktail party?...Science depends on precision and clarity of definitions. From that standpoint, we might do well to forget about a unitary concept such as "aggression" and to search instead for functional relationships between specific acts and their equally specific causes. The various behaviors now subsumed by the word "aggression" could undoubtedly be studied as individual phenomena defined in terms of their own antecedent conditions, intervening processes, and outcomes. (p. 1-2)

A valid point is made that aggression encompasses a wide range of behaviors, from minor slights typically labeled as "micro-aggressions" to newsworthy instances of workplace violence. But should these distinct behaviors be partitioned into separate constructs? This question can be informed empirically. Specifically, CWB is found to have a relatively strong general factor, indicating that if an individual engages in one form of CWB, they are likely to engage in other forms of CWB. Research has not given a thorough empirical examination of workplace aggression's factor structure to date. Should the finding of a general factor hold true for workplace aggression, this would support the notion of continuing to assess workplace aggression as a unitary construct. In fact, studying aggression as a unitary construct may prove particularly useful should

aggression display a strong general factor, because identifying smaller aggressive behaviors may help to prevent future, more severe aggressive behaviors in a completely different form. In fact, Glomb (2002) finds evidence for this "escalatory effect" such that engaging in smaller acts of aggression increases the likelihood of engaging in future, more severe acts of aggression. Furthermore, there is no harm done in assessing aggression as a single construct while also collecting data on facets that fall under the umbrella of aggression.

At the other end of the spectrum, Bowling and Beehr (2006) conduct a meta-analysis of the antecedents and consequences of workplace harassment, combining all interpersonal mistreatment constructs (bullying, interpersonal conflict, social undermining, and abuse) into the label of workplace harassment. The authors state that, "each label refers to the same overall construct" (Bowling & Beehr, 2006, p. 998). These interpersonal mistreatment constructs are not all defined and measured in the same way, as will be detailed below. However, a challenge in this literature is the great construct proliferation in relation to the empirical studies on any given construct.

There exist a multitude of constructs that display conceptual and empirical overlap with workplace aggression (Hershcovis, 2011). The subsections below outline these related constructs and the degree to which they are conceptually distinct from workplace aggression. Empirical evidence for these constructs is presented in the nomological network section.

**Interpersonal Deviance**. Workplace deviance is interchangeable with the construct of CWB. Bennett and Robinson (1995) conduct a multi-phase study on the structure of deviance and find two specific forms of workplace deviance: organizational

deviance and interpersonal deviance. Organizational deviance consists of behaviors directed at organizations whereas interpersonal deviance consists of behaviors directed at individuals (Bennett & Robinson, 1995). Interpersonal deviance displays conceptual similarity to workplace aggression because both intentional acts directed towards others. However, interpersonal deviance does not specify that these acts are intentionally harmful to other individuals, whereas intent to harm is necessary to be considered workplace aggression. Thus, an act of aggression is necessarily a form of interpersonal deviance, although an act of interpersonal deviance is not necessarily a form of aggression.

Bennett and Robinson (1995) present a typology of deviant behavior that is divided by two dimensions: target of deviance (interpersonal versus organizational) and severity of behavior (minor to serious). From this typology, it is clear that interpersonal deviance contains not just subtle behaviors but also severe ones. In fact, the quadrant labeled as “interpersonal” and of “serious” severity is labeled personal aggression and includes sexual harassment, verbal abuse, stealing from co-workers, and endangering coworkers (Bennett & Robinson, 1995). The quadrant labeled “interpersonal” and of “minor” severity is labeled political deviance and includes showing favoritism, gossip, blaming co-workers, and competing nonbeneficially. Definitionally, these political deviance behaviors could also be considered aggression if they were executed with an intent to harm the target.

Bennett and Robinson (2000) created two scales that assess interpersonal and organizational deviance, commonly referred to as counterproductive work behavior-interpersonal (CWB-I) and counterproductive work behavior-organizational (CWB-O). The 7-item scale displays heterogeneous behavioral severity ranging from making fun of

the target to cursing or publicly embarrassing the target. These interpersonal deviance items display great content similarity to direct measures of workplace aggression.

**Social Undermining.** Duffy, Ganster, and Pagon (2002) define social undermining behavior as, "intended to hinder, over time, the ability to establish and maintain positive interpersonal relationships, work-related success, and favorable reputation" (p. 332). This construct is rather narrow in that it has identified a specific mechanism in which perpetrators damage the relationship of victims. It is also unique because many social undermining behaviors are covert in nature and occur without intention to alert the victim to this undermining. Social undermining can be classified into two types of behaviors: direct and withholding behaviors. Direct behaviors are not in covert in nature and involve rejecting a coworker, whereas withholding behaviors are covert in nature and involve behaviors such as withholding important information (Jex & Bayne, 2017).

**Workplace Incivility.** Andersson and Pearson (1999) introduced the concept of incivility, defined as low severity deviant acts enacted toward other organizational members with ambiguous intent to harm. These behaviors involve acting with disregard for others and in violation of norms for social interactions (Andersson & Pearson, 1999). Workplace incivility sits in construct space in between CWB and workplace aggression, because it is low intensity with an ambiguous intent to harm. Workplace incivility may also be comprised of behaviors that are considered low-severity workplace aggression. One other distinction is that workplace incivility is defined in terms of its intensity (or severity) of behavior, which is relatively uncommon for dimensions of workplace aggression.

While incivility may be marginally distinguished from aggression itself and other dimensions of aggression, its measurement contains great overlap with existing constructs. For example, one measure of workplace incivility contains items such as, “Put you down or was condescending to you in some way,” “Made demeaning, rude or derogatory remarks about you,” and “Ignored or excluded you from professional camaraderie” (Blau & Andersson, 2005). The first two items focus on behaviors that are traditionally assessed in workplace aggression scales, and the final item contains a behavior found in social undermining scales. Measurement of incivility primarily consists of A) low-severity aggressive behaviors, or B) behaviors that can also be categorized into other dimensions of aggression (e.g., social undermining).

**Mobbing and Bullying.** Workplace mobbing is defined as occurring, “as schisms, where the victim is subjected to a systematic stigmatizing through interalia, injustices (encroachment of a person’s rights), which after a few years can mean that the person in question is unable to find employment in his/her specific trade” (Leymann, 1990, p. 119). This definition is from one of the seminal articles on mobbing and is currently cited more than 1,900 times. At the core of this definition is “systematic stigmatizing.” Although it is not clearly demarcated in this definition, a central feature of mobbing is that it must involve more than one individual stigmatizing the individual. This definition of mobbing also confuses the construct of mobbing with the outcomes of mobbing by invoking the notion that mobbed individuals may be unable to find future work.

Bullying is defined as, “persistent criticism and personal abuse in public or private, which humiliates and demeans a person” (Adams, 1992, as cited in Einarsen,

2000). Hershcovis (2011) elaborates that workplace bullying involves an employee that is repeatedly exposed to negative acts from coworkers, supervisors, or subordinates. Although they are not defined in an identical manner, at their core mobbing and bullying occupy the same construct space. Specifically, both mobbing and bullying A) involve acts perpetrated upon the victim over a prolonged time period, B) involve a public stigmatization or demeaning of the victim, and C) often involve multiple people acting in conjunction against the victim (mobbing definitionally, and bullying frequently).

**Victimization.** Workplace victimization is defined as, "acts of aggression perpetrated by one or more members of an organization that cause psychological, emotional, or physical harm to their intended target" (Aquino & Thau, 2009, p. 717). Workplace victimization is simply workplace aggression from the victim perspective. Researchers who study victimization do not attempt to further distinguish victimization from workplace aggression, but rather define it as a subset of aggression (Aquino & Thau, 2009). Aquino and Thau state, "for every perpetrator of workplace aggression, there is at least one victim. It is the victim's perspective that we examine in this review [on workplace victimization]" (p. 718).

"Victimization" is certainly more concise than "victim-perspective aggression." However, victimization appears slightly misleading in that it is an entirely separate construct label for the same construct- workplace aggression. The empirical question remains as to the degree that aggression from the victim and aggressor perspective correlate.

**Interpersonal Conflict.** Interpersonal conflict is simply a measure of conflict with others at work (Spector & Jex, 1998). This construct is fundamentally different than

other aggression dimensions because it is intended to transcend the victim versus aggressor issue. The Interpersonal Conflict literature focuses around one scale: the Interpersonal Conflict at Work Scale (Spector, 1987). This scale is intended to measure mutually stressful interactions. As mentioned previously, this scale measures stressful interactions from both the victim and actor's perspective. This scale and construct have been more extensively studied in the occupational stress literature than in the organizational sciences (Jex & Bayne, 2017). Furthermore, this scale is only four items and was developed using face validity only (Spector, 1987).

Interpersonal conflict displays overlaps with other aggression dimensions. Workplace incivility, victimization, and bullying all have scale items that also assess disagreements/ arguments occurring in the workplace (Aquino, Grover, Bradfield, & Allen, 1999; Cortina, Magley, Williams, & Langhout, 2001; Escartin, Rodriguez-Carballeira, Gomez-Benito, & Zapf, 2010). Interpersonal conflict does not have a specified severity level, and ranges from relatively minor (e.g., being rude) to more severe behaviors (e.g., yelling).

**Abusive Supervision.** Abusive supervision is defined as the "extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact" (Tepper, 2000, p. 178). This construct displays three distinctive features separating it from other workplace aggression dimensions. First, the nature of the power dynamic and hierarchical dyadic relationship is specified in abusive supervision. Most other dimensions of aggression do not specify the status of the aggressor and victim, but instead examine status (e.g., supervisor, subordinate, coworker) as a moderator. Second, rather than specifying intent to harm, abusive supervision refers

to hostile verbal and nonverbal behaviors. Third, while many other dimensions do not contain temporal specifications, abusive supervision refers to sustained behaviors. This abuse is sustained until the target terminates the relationship, the supervisor terminates the relationship, or the supervisor modifies their behavior (Jezl, Molidor, & Wright, 1996).

The prominent abusive supervision measure (Tepper, 2000) contains many behaviors that are found in other aggression scales that either measure aggression directly or at the dimension-level. Some examples out of Tepper's 15-item scale include giving the silent treatment, being rude, making negative comments, and ridicule. There are also two behaviors that are largely unique due to the supervisor-subordinate relationship; these behaviors are failing to give credit and not allowing the target to interact with coworkers. While the latter behavior is distinct because the supervisor can hold authority to prevent interaction, this would still be categorized as a social undermining behavior. Thus, while the nature of the target-aggressor relationship serves to define abusive supervision, the specific behaviors measured are overlapping with workplace aggression and its dimensions.

**Construct Reconciliation.** It is evident that there are some conceptual distinctions across aggression's dimensions. However, the rate of construct proliferation has outpaced the rate of empirical study for each construct, making large-scale empirical distinction between dimensions very difficult. For example, even after lumping together all interpersonal mistreatment constructs together, Bowling and Beehr's (2006) antecedent and outcome meta-analyses had *k*'s ranging from 3 to 42 (mean $k = 15$ across all bivariate relationships examined), leaving very little room for stable exploration of

moderation by sub-construct. Furthermore, it is problematic to consider any one dimension of aggression on its own, given many other interrelated dimensions and the higher order factor of aggression.

Hershcovis (2011) proposed a solution to the construct proliferation in this domain that displays promise. Distinguishing factors between dimensions were *severity* of behavior, *duration*, and *perpetrator-victim relationship*. Rather than viewing these variables as distinguishing factors that separate dimensions into unique constructs, Herschovis proposes that these variables should be examined as moderators. Thus, all aggression's dimensions would simply be studied as "aggression", and moderators such as severity and the perpetrator-victim relationship would be leveraged as moderators to evaluate how relationships change between aggression and its antecedents/outcomes. The list of moderators can be expanded and modified as the literature matures. Other potential moderators include perceived invisibility (i.e., degree to which the behavior is covert versus overt; Baron, Neuman, & Geddes, 1999), response perspective (aggressor versus victim), and inclusion of intent to harm. As "intent to harm" is a focal factor separating aggression and CWB, intent can be examined as a moderator to evaluate if this feature changes the psychometric properties of aggression/CWB. Hershcovis' approach allows for building cumulative empirical knowledge in this domain rather than a fractured approach to aggression research in which researchers only consider one dimension at a time. With a cumulative approach in which overarching aggression is measured with moderators, we can accumulate primary studies that all measure the same construct to evaluate replication, building towards meta-analytic evidence.

## Nomological Network of Workplace Aggression

In the following section, the correlates of workplace aggression are organized into three sections: A) non-aggressive counterproductivity, B) antecedents, and C) outcomes. Constructs placed into either section are not necessarily exclusively antecedents or outcomes, but are organized into these categories for conciseness. This section primarily centers on meta-analytic research in order to present more reliable estimates of aggression's correlates. When meta-analytic relationships with aggression are not available, evidence of correlations with CWB are examined because both constructs involve counterproductive actions contrary to the organization's goals. Primary studies are examined when applicable, if a cumulative body of research exists on a given relationship. Variables are examined at multiple positions in the causal chain to gain a broad empirical understanding of how aggression functions at work.

**Counterproductive Work Behavior.** Although there is conceptual similarity between aggression and CWB, it was illustrated above that the two are distinct constructs. Yet, just because the two are distinct conceptually does not mean that they will be distinct empirically. This is true especially because, as mentioned previously, some studies claiming to measure workplace aggression actually use Robinson and Bennett's (1995) CWB scale. There have been surprisingly few studies of the relationship between workplace aggression and CWB, perhaps because they are not often cleanly distinguished. There are no meta-analyses that include both workplace aggression and CWB. In fact, the largest meta-analysis to date on workplace aggression's correlates (Hershcovis et al., 2007) includes some measures of CWB labeled as aggression in the meta-analytic database. While there are primary studies investigating the relationship

between these two constructs, the only locatable primary study examining overall aggression (rather than its facets) and CWB uses a conditional reasoning test of aggression. Conditional reasoning tests present respondents with seemingly traditional inductive reasoning problems, but these tests assess the degree to which response options based on implicit biases are logically appealing to the respondent (James et al., 2005). The conditional reasoning test for aggression represents one of multiple conditional reasoning tests, others of which assess personality dimensions. The conditional reasoning test for aggression measures propensity to endorse logical reasoning mechanisms that can make individuals more likely to engage in aggression. Bing and colleagues (2007) found the relationship between conditional reasoning- aggression and CWB-I and CWB-O to be $r$ = .18 and .04, respectively. While these relationships are quite low, it should be noted that the conditional reasoning test of aggression is not a direct measure of aggression.

In an investigation of CWB's dimensionality, Spector and colleagues (2006) assess the relationship of a number of aggression's facets with CWB-I and CWB-O. Spector conceptualizes the many constructs studied (abuse, production deviance, sabotage, theft, and withdrawal) as dimensions of CWB, although this work focuses on those constructs also construed as facets of aggression. In this study, CWB and its dimensions were assessed via Spector's and colleagues (2006) CWB-Checklist. In a sample of $N$ = 738, the aggression dimension of abuse correlated $r$ = .65 and .94 with overall CWB-O and CWB-I, respectively. The dimension of sabotage correlated $r$ = .65 and .51 with overall CWB-O and CWB-I. Considering the role of unreliability, abuse and interpersonal CWB are virtually colinear, while the other relationships of abuse and sabotage are highly correlated. This is perhaps unsurprising given the notion that these

are lower-order dimensions of CWB and that there is item overlap within these correlations. While lower order dimensions of aggression/CWB correlate with overall CWB, the relationship between overall aggression and CWB remains unclear.

In the largest scale investigation of these constructs to date, Berry, Sackett, and Ones (2007) conduct a meta-analysis on the relationships between CWB-I, CWB-O, and their common correlates. Although workplace aggression was not measured, CWB-I contains conceptual similarity to aggression, with the exception that intent to harm is not included in CWB-I. CWB-I and CWB-O displayed a substantial positive relationship ($\rho$ = .62, $k$ = 27, $N$ = 10,104, SD$\rho$ = .11). It would be expected that this relationship would decrease in strength if intent to harm were included in the measurement of CWB-I (thus making it aggression), but the degree of this decrease remains unclear. Overall, there is an extremely sparse literature examining the relationship between workplace aggression and CWB, making it unclear the degree to which these two constructs are empirically distinct from one another. Future research investigating the aggression-CWB relationship, as well as the extent to which intent to harm affects this relationship, would prove useful.

**Trait Anger and Concerns of State versus Trait.** Measurement of anger is traditionally broken down into two constructs: state anger and trait anger. Speilberger (1996) describes state anger as a temporary emotional response to a particular event that can vary in intensity across time. On the other hand, trait anger is defined as the predisposition to respond to situations with hostility, as well as as the disposition to experience state anger over time and context (Speilberger, 1991; Speilberger, 1996). Aggression can also be described as being comprised of both a state and trait element.

State aggression involves intention to harm another in response to a given event or interaction, whereas trait aggression is a disposition to engage in state aggression across time. The present series of studies focuses on the trait elements of anger and aggression, because the focus of this dissertation is measuring and predicting workplace aggression. Similarly, workplace aggression is measured by asking respondents about engaging in aggression over the past year in order to assess aggressive disposition across time (i.e., trait aggression) rather than in response to a single event. Rather than focusing on isolated responses to particular events at work, this work examines tendencies across time that may illuminate methods for identifying individuals that display a disposition for aggression. This certainly does not discount the notion that useful empirical insights can be gained by taking a micro-approach to studying workplace aggression that may evaluate particular triggers, emotional states, or behavioral response processes that occur in a given instance of aggression.

Theoretically, individuals high in trait anger are likely provoked into aggression more easily because they perceive a greater variety of situations as frustrating than individuals low in trait anger (Douglas & Martinko, 2001; Hershcovis et al., 2007). For example, an individual high in trait anger may be more likely to be frustrated by waiting in a moderate line at the DMV, whereas an individual low on trait anger may not be nearly as bothered. Addressing the issue of situational perceptions, Gibson and Barsade (1999) found employees with high chronic anger (i.e., trait anger) are less likely to think their supervisors treat them with respect and more likely to feel betrayed by employers than individuals with low chronic anger. While this study does not preclude reverse-causality, it does give initial evidence for a relationship between perceptions of situations

and chronic anger. After perceiving situations as frustrating, individuals high in trait anger may also have a lower threshold for reacting aggressively than individuals low in trait anger. A study on irritability found that in a provoking situation, individuals with higher irritability are more likely to respond aggressively than individuals with lower irritability (Caprara, Renzi, Alcini, Imperio, & Travaglia, 1983). This experiment gave 60 highly irritable and 60 low irritable participants opportunities to shock an experimental confederate after receiving a negative judgment (i.e., the provoking situation) on their learning performance from a previous task, thus establishing causality between irritability and aggression.

With respect to the direct relationship between trait anger and workplace aggression, the meta-analytic correlation between trait anger and aggression was $\rho = .43$ ($k = 10$, $N = 2{,}648$, $CI_{unspecified} = .29, .57$; Hershcovis et al., 2007). It should be reiterated that this meta-analysis included some measures of CWB as aggression, which represents a limitation for all predictor-aggression relationships in this study. However, this result indicates trait anger represents one of the more promising predictors of workplace aggression. In fact, trait anger was the second strongest dispositional predictor of aggression in the meta-analysis. It should be mentioned that trait anger and aggression are conceptually distinct because trait anger is the tendency to experience an *emotional state* across time, whereas trait workplace aggression is a pattern of *behaviors* across time.

**Negative and Positive Affect.** Negative affect reflects the degree one experiences unpleasant, distressing emotions and positive affect reflects the tendency to experience pleasant emotions (Watson, Clark, & Tellegen, 1988). A state of low negative affectivity is characterized by calmness and serenity. Positive affect reflects the extent to which an

individual is alert, active, and enthusiastic. To be in a state of high positive affectivity is to be in a state of pleasurable engagement and full concentration (Watson, Clark, & Tellegen, 2001). Counterintuitively, positive and negative affectivity are not two poles of the same dimension but rather found to be two separate dimensions (Russell, 1980; Zevon & Tellegen, 1982).

Similar to the literature on the relationship between anger and aggression, negative affect is theoretically related to aggression because individuals high in negative affect are more reactive to negative events (Douglas & Martinko, 2001). It may be that negative affectivity also has potential to make individuals frustrated in a greater variety of situations, as well as lowering the threshold with which an individual would react aggressively in those situations. Caprara and colleagues (1983) conducted a second study, this one on the relationship between emotional susceptibility and aggression. Subjects who were provoked about their previous performance on a task and had high emotional susceptibility delivered stronger shocks than those who were provoked and had low emotional susceptibility. Samnani, Salamon, and Singh (2014) found a moderated affect-CWB relationship such that when individuals had low self-reported moral disengagement, the relationship between negative affect and self-reported CWB was negligible. However, when individuals had high self-reported moral disengagement, there was a positive relationship between negative affect and CWB. Meta-analytically, Hershcovis and colleagues found the negative affect-interpersonal aggression relationship to be $\rho = .29$ ($k = 5$, $N = 1{,}532$, $CI_{unspecified} = .18, .39$). Cumulative evidence across primary studies and meta-analytic work suggests a moderate relationship between negative affect and workplace aggression.

While there has been limited investigation of the negative affectivity-aggression relationship (i.e., $k = 5$), there has been even less study of the positive affectivity-aggression relationship. Because negative and positive affectivity are separate dimensions, it may be the case that low negative affectivity can prevent aggressive tendencies rather than high positive affectivity. Yet, Baron (1990) found that subjects exposed to pleasant scents to induce positive affect engaged in lower conflict on a task than subjects who were not exposed to pleasant scents. Carnevale and Isen (1986) manipulated positive affect by showing participants either cartoons or nothing before a negotiation task. This manipulation was supported via a manipulation check on mood. Participants in the positive affect condition displayed less contentious negotiation tactics than participants in the neutral affect condition. Future research should evaluate if the presence of positive affect or simply the absence of negative affect has an inhibitory affect on aggression (and other forms of CWB).

**Big Five Personality Factors.** Personality factors have played an important role in predicting CWB via personality-based integrity tests (Ones, Viswesvaran, & Schmidt, 1993). Personality-based integrity tests are primarily comprised of three of the Big Five personality factors: conscientiousness, agreeableness, and emotional stability. Conscientiousness is defined as reflecting characteristics such as dependability, carefulness, and responsibility (Ones et al., 1993). Agreeableness reflects the tendency to be cooperative, compassionate, and empathetic (Costa & McCrae, 1992). Emotional stability represents the degree to which a person is secure, calm, and has low levels of negative emotionality (Berry, Ones, & Sackett, 2007), and is often identified by its opposite pole as neuroticism. Factor analyses of the Big Five personality factors have

displayed two higher order meta-traits that sit above the Big Five factors in the personality hierarchy: stability and plasticity (Hirsh, DeYoung, & Peterson, 2009). The shared variance across conscientiousness, agreeableness, and emotional stability comprise the meta-trait of stability, otherwise called Factor Alpha (Hirsh et al., 2009). Stability is defined in terms of a need to maintain a reliable organization of both behaviors and psychological functioning (DeYoung, 2006).

There is not currently meta-analytic evidence on the relationship between the Big Five personality factors and workplace aggression. Berry, Ones, and Sackett (2007) examined the relationship between personality factors and CWB, distinguishing between CWB-Interpersonal and CWB-Organizational. The same three personality factors comprising the stability meta-trait proved useful in predicting CWB-I: agreeableness ($\rho$ = -.46, $k$ = 10, $N$ = 3,336, SD$\rho$ = .10), emotional stability ($\rho$ = -.24, $k$ = 10, $N$ = 2,842, SD$\rho$ = .12), and conscientiousness ($\rho$ = -.23, $k$ = 11, $N$ = 3,458, SD$\rho$ = .13; Berry, Sackett, & Ones, 2007). The researchers also report a subset of analyses which includes only self-reported deviance, and the same pattern and of relationships is maintained. On the other hand, neither of the other two Big Five factors displayed sizable relationships with CWB-I. Openness displayed a relationship of $\rho$ = -.09 ($k$ = 5, $N$ = 1,772, SD$\rho$ = .00), and extraversion displayed a relationship of $\rho$ =.02 ($k$ = 8, $N$ = 2,360, SD$\rho$ = .11).

The factors comprising the stability meta-trait display non-trivial relationships with CWB-I, but do these relationships generalize to workplace aggression? Theoretically, it is plausible that an individual who displays a personality high in responsibility, impulse control, and stable psychological functioning (i.e., an individual high in stability) is less likely to engage in workplace aggression than an individual who

is low in responsibility, impulse control, and does not have stable psychological functioning. In a large-scale primary study, Taylor and Kluemper (2012) examined personality and workplace aggression among other variables. Uncorrected correlations of agreeableness, conscientiousness, and emotional stability were $r$ = -.27, -.12, and -.11, with interpersonal aggression, respectively ($N$ = 404). Using the internal consistency reliabilities reported in this study and applying the same corrections in both variables as was done in Berry et al., corrected correlations are $\rho$ = -.34, -.15, and -.14, for agreeableness, conscientiousness, and emotional stability, respectively. While these correlations are smaller in magnitude, aggression does tend to be a lower base-rate criterion than counterproductivity. Furthermore, the same pattern of relationships is observed as in the Berry et al. meta-analysis, providing encouraging initial evidence that the factors comprising the stability meta-trait generalize in predicting workplace aggression in addition to CWB-I.

**Organizational Justice and its Facets.** Organizational justice is comprised of three primary facets: distributive justice, procedural justice, and interactional justice. In the aggregate, overall justice is defined as, “the perceived adherence to rules that reflect appropriateness in decision contexts” (Colquitt & Zipay, 2015, p. 76). Distributive justice reflects perceived fairness with respect to allocation of outcomes, and the degree to which outcomes are equitable (Colquitt et al., 2013). Procedural justice focuses on the procedures behind the allocations of outcomes and reflects the perceived fairness of decision-making processes (Colquitt, 2008). Interactional justice refers to the “quality of interpersonal treatment [people] receive during the enactment of organizational procedures” (Bies & Moag, 1986). All three facets of justice focus on perceptions of

fairness: distributive justice centers on *outcomes*, procedural justice centers on *procedures* behind allocating outcomes, and interactional justice centers on *interpersonal treatment*. Theoretically, if one perceives procedures, outcomes, or interpersonal treatment at work are not executed in a fair manner, this individual may be more likely to take aggressive actions against those that have wronged them. However, there is some evidence to suggest differential relationships dependent on facet of justice, detailed below.

One study found that individuals who view outcome-distributions as unfair are likely to blame the source of the decision (Aquino, Lewis, & Bradfield, 1999). Hershcovis and colleagues (2007) posit that this finding indicates distributive justice may correlate with both organization-targeted and supervisor-targeted aggression, depending on the source of the decision. As procedures are determined and implemented at the organizational level (Aquino et al., 1999), Hershcovis and colleagues hypothesized that procedural justice will relate to organization-targeted aggression. However, it could also be that employees find more proximal sources for unfair procedures (e.g., first or second-level supervisors) rather than simply blaming the organization broadly. It is unclear the extent to which individuals blame proximal versus distal sources for procedural injustice.

Hershcovis and colleagues (2007) found that interpersonal aggression was best predicted by procedural justice $\rho$ = .20 ($k$ = 12, $N$ = 2,817, $CI_{unspecified}$ = .12, .28), followed by distributive justice $\rho$ = .13 ($k$ = 11, $N$ = 2,757, $CI_{unspecified}$ = .02, .24). Similarly, organizational aggression was best predicted by procedural justice $\rho$ = .21 ($k$ = 11, $N$ = 3,257, $CI_{unspecified}$ = .07, .35), followed by distributive justice $\rho$ = .15 ($k$ = 11, $N$ = 3,257, $CI_{unspecified}$ = .12, .17). Counter to hypotheses, the pattern of relationships between the two

types of justice and interpersonal versus organizational aggression were similar. While procedural justice was a better predictor of both types of aggression, these differences are not large in magnitude and the confidence intervals (albeit unspecified) are overlapping. Thus, the present study does not have a strong a priori hypothesis regarding differential relationships between procedural and distributive justice and aggression. There have not been enough studies conducted to meta-analytically examine the relationship between interactional justice and workplace aggression. However, interactional justice involves conceptual similarity to workplace aggression because both constructs contain interpersonal (mis)treatment.

**Job Satisfaction.** Job satisfaction is defined as cognitive and affective reactions to one's job (Dalal, 2012). It may be the case that individuals who are not satisfied with their job are more likely to take actions against individuals at work due to their thoughts and feelings about their work situation. Importantly, job satisfaction may function as either a predictor or an outcome of workplace aggression. It could also be the case that individuals who act aggressively at work become unsatisfied with their jobs because of the negative interpersonal and organizational repercussions of their aggressive behaviors. Interestingly, job *dissatisfaction* has been meta-analyzed as an antecedent of workplace aggression (Hershcovis et al., 2007), whereas job *satisfaction* has been meta-analyzed as an outcome of workplace aggression (Hershcovis & Barling, 2010). Although it is comprised of multiple facets, the body of research considers overall job satisfaction a bipolar, single construct which ranges from dissatisfied to satisfied (Dalal, 2012) rather than two distinct constructs (i.e., satisfaction and dissatisfaction). In the meta-analysis examining job dissatisfaction, it is defined as, "the extent to which people like or dislike

their jobs" (Hershcovis et al., 2007, p. 231). By this operationalization, the authors do not appear to make a meaningful distinction (aside from end of the spectrum) between job satisfaction and dissatisfaction. Given this, it is surprising that job satisfaction results would be reverse-coded and examined as both an antecedent and outcome. One meaningful distinction between the two meta-analyses is that Hershcovis and colleagues (2007) examined the job satisfaction relationship with enacted aggression, whereas Hershcovis and Barling (2009) examine experienced workplace aggression.

Hershcovis and colleagues (2007) find the relationship between job dissatisfaction and enacted interpersonal aggression to be $\rho$ = .18 ($k$ = 9, $N$ = 2,209, unspecified $CI$ = .08, .28), whereas job dissatisfaction related to enacted organizational aggression at $\rho$ = .31 ($k$ = 6, $N$ = 1,345, unspecified $CI$ = .28, .46). Hershcovis and Barling (2009) found the relationship between job satisfaction and experienced supervisor aggression to be $\rho$ = -.38 ($k$ = 18, $N$ = 7,242, SD$\rho$ = .07), whereas experienced co-worker aggression was $\rho$ = -.25 ($k$ = 14, $N$ = 8,421, SD$\rho$ = .09). Overall, relationships appear in the small to moderate range depending on the target of aggression. The meta-analytic databases appear to be almost exclusively non-overlapping, with only one sample included in both meta-analyses. A victim of aggression could become dissatisfied due to aggression or could be targeted for aggression due to their dissatisfaction. Inclusion criteria in either study do not discuss manipulations to draw causal inferences, and bivariate correlations are reported in both studies. Aggression response perspective (enacted versus experienced) does not preclude bidirectionality of the satisfaction- aggression relationship: an aggressor can enact aggression because they are dissatisfied, or an aggressive individual can become dissatisfied due to consequences of aggression. Overall, these appear to be two estimates

of the same relationship from two different response perspectives, with similar magnitude estimates.

## Studies 1 - 4 Overview

All studies in this program of research involve examination of workplace aggression measurement, with a specific focus on the role of intent to harm. The ultimate goals of this research are fourfold: A) assess whether existing measures of workplace aggression have sufficient construct validity with respect to intent to harm; B) assess the psychometric properties (i.e., rate of occurrence, factor structure) of aggression with and without intent to harm, C) assess how intent to harm alters the nomological network of workplace aggression, and finally, D) create a construct-valid measure of workplace aggression. Study 1 begins with the rather simple question: Do existing measures of workplace aggression assess intent to harm? This study asks a general sample of workers to evaluate existing aggression items on their likelihood of containing intent to harm. Upon discovering that current aggression scales do not sufficiently assess intent to harm, Study 2 asks the question: Does inclusion of intent to harm affect workplace aggression's rate of endorsement and factor structure? Turning to relationships with other constructs, the first portion of Study 3 examines how workplace aggression's correlates are altered when intent to harm is included in measurement of aggression. The second portion of Study 3 utilizes the cumulative knowledge gained from all prior studies to devise a novel, construct-valid measure of workplace aggression. Study 4 conducts cross-validation of this newly devised aggression scale in a sample of Korean firefighters. Although the overarching focus is on intent to harm, this work also assesses the effect of response perspective on workplace aggression, as prior research often assesses one response

perspective (aggressor) or the other (victim) unilaterally. This series of studies also addresses the issue of aggression's construct proliferation by examining lower-order facets of aggression and whether aggression is distinguished from CWB.

## Study 1

The first study in this program of research systematically evaluates existing workplace aggression scales for construct validity. As stated in the introduction, a thorough review of workplace aggression conceptualizations reached the conclusion that aggression consists of three necessary features. Namely, these three features are that: A) aggression consists of *behaviors* and not outcomes, B) that these behaviors contain *intent to* harm, and C) that this harm is intended to be inflicted upon individuals rather than the organization itself. From these features, the present work defines workplace aggression as *any behavior initiated by employees that is intended to harm an individual or group within their organization*.

The first feature that distinguishes aggression from CWB is that aggression is limited to behaviors aimed at individuals, while CWB can include behaviors aimed at individuals or the organization itself. However, Robinson and Bennett (1995) split CWB into two dimensions: CWB-Interpersonal and CWB-Organizational. As such, the second feature distinguishing aggression from CWB, and the only feature distinguishing aggression from CWB-I, is intent to harm. Intent to harm is a necessary feature of workplace aggression, whereas it is not for CWB (and CWB-I). Upon an initial review of workplace aggression scales, the notion of intent to harm was not readily apparent in many aggression items. In fact, it was the researcher's judgment that that most workplace aggression scales do not explicitly address intent to harm. Intent to harm involves cognition, and aggression scales commonly include items dealing with losing one's temper, which is an emotional reaction rather than a cognitive one. As another example, an aggression item such as "staring, dirty looks, or other negative eye-contact" (Neuman

& Baron, 1998) does not reflect intent to harm because the target could perceive a “dirty look” when there was actually no intent to make a dirty look from the aggressor. The item, “avoiding another person” (Glomb, 2002) fails to reflect intention to harm because the aggressor may avoid the target for their own preference (i.e., they wish to avoid conflict), instead of meaning to harm the target.

The simplest argument for the alignment of intent to harm with aggression measurement is an argument of construct validity. If aggression is defined with intent, then in order to have a scale with a reasonable amount of construct-validity, this definitional requirement should be measured. In a computational modeling study of aggression, Glomb and Miner (2003) asked whether incidents on the Aggressive Incidents Scale were considered aggressive on a scale ranging from *Definitely Not* to *Absolutely Yes*. While that data collection aids in mapping behaviors onto aggression, the present study specifically evaluates whether aggressive behaviors are sufficient with respect to a definitional feature of aggression (intent to harm).

Relatedly, aggression is a psychological construct that can have a strong meaning and behavioral implications. Aggression is often associated with physical or verbal actions that result in some form of harm to the target of the aggressive action, as well as connotations of violence. However, items composing workplace aggression scales often contain subtle behavioral cues such as angry looks, giving the silent treatment, and purposefully spending too long on a task or on break. Table 2 includes a sampling of items from aggression scales containing subtle behaviors which were judgmentally determined to fail the definitional requirement of intent to harm. To an organizational member with no context for this construct in psychological research, use of the term

"aggression" can be misleading. In conjunction with the fact that aggression is defined with intent to harm, this is another reason it is important that aggression scales are unambiguous with regard to all definitional requirements.

For the items in Table 2, it is difficult to infer whether these subtle behavioral cues are actual behaviors directed at the target, or if these behaviors are simply perceived as being directed at the target. Rather than relying on one researcher's subjective judgment as to whether intent to harm could be assumed to underlie the aggressive behavioral items, the present study conducts a systematic investigation of aggression items. Thus, the purpose of this study is to examine whether there is a disconnect between the conceptualization of aggression as reflecting intent to harm and the way aggression is operationalized in the existing measures.

*Research Question 1:* To what degree do existing measures of workplace aggression assess the notion of "intent to harm" others?

The prevalence of intent to harm is examined within common workplace aggression scales by surveying participants from the United States on their perceptions of the extent to which intent to harm is reflected in aggression items. A general population sample was selected because aggression measures are taken by broad samples of workers, and their opinion on whether intent can be inferred is the perspective of interest. All locatable workplace aggression scales were included for evaluation in addition to scales that commonly get cited as measuring aggression. Because of concern for careless responding within the online sample, thorough analyses of insufficient effort responding (or careless responding; Huang, Liu, & Bowling, 2015) and outliers were undertaken. These participant screens are described in the Analyses subsection.

Additionally, incorporated into this study is a post-hoc data collection using subject matter experts ratings of aggressive behaviors. An early reader of this work questioned whether behavioral severity may be the prime driver of intent ratings, such that more severe behaviors (e.g., physical, verbal assault) would result in higher intent to harm ratings. Thus, PhD students from the University of Minnesota's Industrial/Organizational Psychology program were asked to make ratings of behavioral severity for each aggression item used in this study to accompany the ratings of intent made by the more general sample.

## Method

### Participants

The study had 150 participants (44.7% female) from the United States ranging in age from 19 to 62 ($M$ = 32.09, $SD$ = 8.74). This sample size was chosen because power analyses indicated that for a desired power of .80 and a .25 standardized mean difference between aggression scales' levels of intent to harm, 128 participants were required. Participants were recruited through Amazon Mechanical Turk (MTurk) and compensated $2.75 for their participation. Surveys for Study 1 and all subsequent studies were conducted in Qualtrics. The sample was 76.7% Caucasian, 10% Asian, 8.7% Hispanic, and 7.3% Black (participants indicated all that apply). On average, the survey took 15.7 minutes ($SD$ = 11.0).

As supplemental analyses for the present study and Study 3, 12 graduate PhD students from the University of Minnesota's Industrial/Organizational Psychology program made ratings of aggressive behaviors for: A) each behavior's level of severity, and B) each behavior's appropriate facet categorization.

**Procedure**

Participants were given the following instructions: “Here is an example item from different perspectives: A) You pass someone in the hall without speaking to them. B) A colleague passes you in the hall without speaking to you. C) You observe a colleague pass a coworker in the hall without speaking to them. Your task is to indicate the extent to which you think the idea of “intent to harm” either other individuals or an organization is reflected in the following behaviors, regardless of who is engaging in these behaviors.” Participants responded to all workplace aggression measures using the following response scale on the likelihood of intent to harm: 1 (*No Intent to Harm)*, 2 (*Very Low Likelihood*), 3 (*Low Likelihood*), 4 (*Moderate Likelihood*), 5 (*High Likelihood*), and 6 (*Very High Likelihood*). Participants were also explicitly directed not to respond to items with their own experiences at work.

The participants from the University of Minnesota’s rating exercise made ratings of behavioral severity on a scale of 1 (*Very Low Severity*), 2 (*Low Severity*), 3 (*Moderate Severity*), 4 (*High Severity*), and 5 (*Very High Severity)*. Ratings were made on 50 items that corresponded across the two datasets.[1] Facet category ratings from this sample will be discussed in Study 3.

**Measures**

Aggression meta-analyses were searched (e.g., Hershcovis et al., 2007; Hershcovis & Barling, 2010) in addition to primary studies to identify existing measures

[1] Items were not exact matches across the University of Minnesota behavioral severity rating dataset and the MTurk intent to harm rating dataset. The final subset of aggression items used in the Minnesota dataset had an altered response perspective and some items displayed slight rewording. For example,”Verbal abuse” in the MTurk dataset corresponded to “I Have verbally abused another person” in the Minnesota dataset. The corresponding behaviors in the two datasets remained the same.

of workplace aggression. All relevant workplace aggression scales were included for evaluation of their levels of intent to harm. Although some measures purport to measure other counterproductive behaviors than workplace aggression (i.e., Workplace Deviance Scale, Negative Acts Questionnaire, Interpersonal Conflict at Work Scale), all measures get cited as scales of workplace aggression. It was useful to include all measures getting cited as aggression because they may also contain useful behavioral items representing aggression. Furthermore, it was decided to cast a wide net in terms of what was considered a measure of workplace aggression because this research planned to begin with a large item pool and conduct trimming of the item pool throughout the program of research.

*Neuman and Baron's (1998) Workplace Aggression Scale.* This 32-item scale is one of four scales included that are direct measures of workplace aggression. Items from this scale contain ambiguous response perspective and as such, can be measured from either the victim or aggressor perspective. Example items include, "staring, dirty looks, or other negative eye contact," "interfering with or blocking the target's work," and "threats of physical violence." This scale displayed internal consistency reliability of $\alpha = .95$.

*Barling, Rogers, & Kelloway's (2001) Workplace Aggression Questionnaire.* This 10-item questionnaire is a direct measure of aggression, and is an altered version of Greenberg and Barling's (1999) employee aggression questionnaire. Some items contain an ambiguous response perspective (e.g., "been threatened with a weapon other than a knife or a gun (e.g., garden tool)", "been yelled, shouted, or sworn at") whereas other items are phrased from the victim's perspective (e.g., "someone cried to make you feel

guilty", "someone tried to hit you with something"). This scale displayed an internal consistency reliability of $\alpha$ = .92.

*Glomb's (2002) Specific Aggressive Incident Scale.* This 19-item scale is also a direct measure of aggression and can be assessed from either the victim or aggressor perspective. Example items include, "flaunting status or power over another," "damaging another person's property," and "insulting, criticizing another (including sarcasm)." This scale displayed an internal consistency reliability of $\alpha$ = .92.

*Neuman & Keashly's (2004) Workplace Aggression Research Questionnaire (WAR-Q).* This 33-item questionnaire is a direct measure of workplace aggression and is comprised of items from the victim response perspective. Sample items include, "been given the silent treatment," "had your contributions ignored by others," and "had others fail to give you information that you really needed." This scale displayed an internal consistency reliability of $\alpha$ = .98.

*Bennett and Robinson's (2000) Workplace Deviance Scale.* This 24-item scale is not a direct measure of aggression, but rather a measure of workplace deviance (CWB). This scale is phrased from the actor's perspective. Example items include, "taken property from work without permission," "put little effort into your work," and "publicly embarrassed someone at work." This scale displayed an internal consistency reliability of $\alpha$ = .96.

*Einarsen & Raknes' (1997) Negative Acts Questionnaire*. This 22-item questionnaire assesses victimization and harassment, and is conceptually similar to direct measures of workplace aggression. Items take the victim's perspective. Example items include, "social exclusion from co-workers or work group activities," "physical abuse or threats of

physical abuse," and "hints or signals from others that you should quit your job." This scale displayed an internal consistency reliability of $\alpha$ = .94.

*Spector and Jex's (1998) Interpersonal Conflict at Work Scale.* This four-item scale is not a direct measure of aggression, but rather a measure of mutually stressful interactions at work. One item ("How often did you get into arguments with others at work?") was excluded because it was unclear whether the respondent was the victim or the aggressor in this situation. The other three items were, "how often do other people yell at you at work," "how often are people rude to you at work," and "how often do other people do nasty things to you at work." This scale displayed an internal consistency reliability of $\alpha$ = .91.

*European Next Studies'* (Arnetz, Arnetz, & Petterson, 1996; Pai & Lee, 2011) *Measure of Workplace Violence.* This four-item scale measures workplace violence. This scale was included in order to ensure that items in the high behavioral severity range were sampled. The items were, "have you ever been a victim of violence at your workplace," "have you ever been threatened with an act of violence, that was ultimately never executed, at your workplace," have you ever witnessed an act of violence at your workplace," and "do you personally consider violence and threats of violence an occupational problem." This scale displayed an internal consistency reliability of $\alpha$ = .90.

**Analyses**

*Insufficient Effort Responding Detection.* Due to the concerns over insufficient effort responding (IER) in Amazon MTurk and online samples (i.e., DeSimone & Harms, 2018), Studies 1, 3, and 4 use a multi-faceted flagging approach to detect and remove careless responders. The following IER flags were used to identify careless responders in

some capacity across the four studies: the long-string index (Huang, Curran, Keeney, Poposki, & Deshon, 2012), psychometric synonyms and antonyms (Meade & Craig, 2012), and response time. The long-string index simply counts the number of times a respondent selects the same response option in succession (Huang et al., 2012). This metric can be calculated as a maximum number of successive same-response selections, or the mean number of successive same-response selections. Huang and colleagues (2012) suggest a cut-off value of 10 in identifying careless responders. Psychometric antonyms identify the item-pairs displaying strongest negative correlations in a given dataset, and then calculate a within-person correlation across these pairs of items to evaluate if responders are consistent across these "opposite" items (Goldberg, 2000). The psychometric synonyms technique is conceptually equivalent, except within-person correlations are calculated on item-pairs displaying the strongest positive correlations (Meade & Craig, 2012). Meade and Craig (2012) suggest cut-off values of $r$ = -.60 (antonyms) and + .60 (synonyms) to identify item-pairs. Finally, Mahalanobis distance (Mahalanobis, 1936) is also utilized to flag participants that are multivariate outliers.

In this sample, psychometric antonym analyses were not undertaken because the dataset contained no psychometric antonyms below the -.60 threshold. A threshold of +.80 was used to identify psychometric synonyms due to the large number of item-pairs showing strong positive correlations. There were 12 items identified as psychometric synonyms above this threshold, and eight participants were flagged based on psychometric synonyms. Although the recommended flag for the long-string index is 10, a more lenient threshold of 25 was used because participants could justifiably believe that many items contain a similar level of intent to harm if items explicitly state intent to

harm. Three participants were flagged by the long-string index. Finally, there was one participant flagged as a multivariate outlier and no participants flagged due to implausible response times.

A decision rule was used such that if a participant was flagged on any IER flag above, they were removed from the dataset. Overall, twelve participants were removed from analyses due to insufficient effort responding flags and outlier flags, leaving a total sample size of $N$ =138. All careless responding and outlier analyses were implemented with the R package "careless" (Yentes, 2018).

*Other Analyses*. On average, missingness per aggression item was 0.8%, and ranged from 0.0% to 4.3%. This study uses pairwise deletion. Advanced missing data techniques are not utilized because of the combination of very low proportion missingness and the fact that analyses were basic and descriptive in nature. In subsequent studies that use inferential statistics, advanced missing data techniques are utilized.

To address the research question of to what degree scales measure intent to harm, a primarily descriptive approach is taken. Means and standard deviations are provided of each scale's likelihood of containing intent to harm, as well as frequency distributions of items containing specified levels of intent to harm. Dependent samples *t*-tests were conducted to compare intent to harm scores across scales. All analyses for this study and all subsequent studies were conducted in R and statistical code is available upon request.

## Results

Research Question 1 asked to what degree existing aggression scales measure intent to harm. Table 3 contains means and standard deviations of level of intent to harm for each of the aggression scales. Scales primarily had mean scores rounding to the

anchor points of 3 (*Low Likelihood of Intent to Harm*) and 4 (*Moderate Likelihood of Intent to Harm*). There was variability in the degree to which scales contained intent to harm, ranging from a mean of 3.21 (*Low likelihood of intent*) to 4.51 (*High likelihood of intent*). Two additional samples were analyzed as a sensitivity test to careless responding: a sample using a more stringent screen of careless responders ($N$ = 112), and the full sample without screening out any participants ($N$ = 150). In both cases, the order of scales containing intent to harm was preserved. The mean difference in scale means when comparing across samples was $M$ = .03 ($SD$ = .01), with a maximum difference of .05. On a scale of 1 to 6, this difference is very minimal, indicating that the pattern of results is robust to insufficient effort responding in the online sample. Additionally, there were not significant differences between overall male ratings of intent to harm ($M$ = 3.87, $SD$ = .70) and female ratings ($M$ = 3.72, $SD$ = .72), indicating that gender did not influence intent to harm ratings, $t(131) = 1.23$, $p$ = .22.

The scale with the least judged intent to harm was Bennett and Robinson's Workplace Deviance scale ($M$ = 3.21, $SD$ = .60; *Low Likelihood*) followed by Neuman and Keashly's Workplace Aggression Research Questionnaire ($M$ = 3.53, $SD$ = .46; *Moderate Likelihood*). The scale with the most judged intent to harm was Barling, Rogers, and Kelloway's Workplace Aggression scale ($M$ = 4.51, $SD$ = .60; rounded up to *High Likelihood*). A dependent samples $t$-test revealed that the greatest difference between scales is significant; Barling, Rogers, and Kelloway's scale is significantly greater than Robinson and Bennett's scale ($t$ (132) = 11.95, $p < .01$). Table 4 displays a matrix of dependent samples $t$-tests between levels of intent on aggression scales. Almost all scales have significant differences from one another at an alpha level of .05. Scales

specifically designed to measure aggression were slightly higher in intent to harm ratings than scales measuring related constructs. When equally weighted, aggression scales contained an intent to harm score of *M* = 4.00 (*Moderate Likelihood*) as compared with *M* = 3.38 (*Moderate Likelihood*) for related constructs, which represented a standardized mean difference of *d* = .32. However, this was largely because related constructs included a measure of workplace deviance which displayed substantially lower intent to harm ratings than all other scales included.

Table 5 contains frequencies of items falling at each scale point (e.g., 3 items under “No intent to harm”) for each aggression scale. The majority of all items sampled fell between low and moderate likelihood of intent to harm, with 30.3% falling in the “low likelihood” category and 50.3% in the “moderate likelihood” category. Scales designed to measure workplace aggression displayed a similar distribution, with 31.9% in the “low likelihood” category and 47.9% in the “moderate likelihood” category. Only 13.8% and 2.1% of items fell in the “high likelihood” and “very high likelihood” categories, respectively (and 16.0% and 3.2% for aggression scales only). To demonstrate which items effectively contain intent and which do not, Table 6 contains a sampling of items that fall at each point along the intent to harm continuum.

Intraclass correlation coefficients (ICC) were calculated to examine the proportion of variance residing between aggression items and between participants (Hoffman, Griffin, & Gavin, 2000). The ICC between items was .38, and the ICC between participants was .32. This indicates that there was a similar degree of shared variance between individual items and individual participants. The $r_{wg}$ within group agreement index (James, Demaree, & Wolf, 1984) was also calculated to evaluate degree

of agreement between raters. The $r_{wg}$ was .99, indicating a very high level of agreement between raters. However, Lindell's $r^*_{wg}$ was also calculated because this index does not increase as the number of items in the scale increases, whereas $r_{wg}$ does (Lindell & Brandt, 1999). This is particularly relevant to the aggression scales included because there are 145 items in this survey. Lindell's $r^*_{wg}$ was .49, indicating moderate agreement by this metric, suggesting that the high initial $r_{wg}$ was largely due to the high number of items included in the survey.

One definition of aggression (Jex & Bayne, 2017) imposes a behavioral severity threshold, such that to be considered aggression behaviors must be relatively severe. This study examines intent to harm, which may be related to the concept of behavioral severity as aggression is currently measured. The MTurk intent to harm ratings and the Minnesota behavioral severity ratings showed a correlation of .91, indicating a very strong relationship between the likelihood that an item contains intent to harm and that item's level of behavioral severity.

## Discussion

Systematic investigation of aggression's measurement showed variability in the degree to which intent to harm was contained in aggression items. Because intent to harm is a requisite feature of workplace aggression, construct-valid measurement would ideally be rated as either a high or very high likelihood of assessing this feature. However, less than one in six aggression items sampled were rated as containing either a high or very high likelihood of measuring intent to harm. This indicates that as a whole, the item pool sampled was deficient with regards to intent to harm, and subsequently has suboptimal construct validity. Approximately one half of items were rated as moderate likelihood

and one third were rated as low likelihood of containing intent to harm. The term "likelihood" is essential in the interpretation of this scale point; for many items to have a moderate chance of measuring intent suggests these items contain some ambiguity in their measurement of intent.

At the scale level, the highest scale mean fell approximately equidistant between the moderate and high likelihood categories of intent to harm. Investigation of this scale's content domain indicates that behaviors measured have: A) relatively high degree of severity, and B) are overt in nature (e.g., "Someone tried to hit you with something," "Been cornered or placed in a position that was difficult to get out of," "Had a door abruptly shut in your face"). All other scales had scale means of either moderate or low likelihood of intent. Many of the low likelihood behaviors were covert in nature (e.g., "Failing to defend targets plans to others," "Avoiding another person") or were directed at the organization (e.g., "Spent too much time fantasizing or daydreaming instead of working," "left work early without permission"). In the case of organizationally directed behaviors, intent to harm may be unclear because it is not readily apparent which individuals at the organization would be harmed by these behaviors. This is particularly important for instances where Robinson and Bennett's Workplace Deviance Scale gets cited as a measure of aggression. Not only does using this as an aggression measure obfuscate the distinction between two separate constructs, but it also provides a deficient measure of aggression.

*Limitations*

This study is primarily limited by the scope of data it gathered- there are not data containing actual participant responses to enacted or experienced workplace aggression,

nor are there any measures of aggression's relationships with other constructs. However, this study set out to address a rather simple research question: to what degree do existing measures of workplace aggression contain intent to harm? The Amazon MTurk sample presents concerns of careless responding as well. However, there were multiple careless responding screens conducted to ensure that overall conclusions were not dependent on including (or excluding) careless responders.

*Conclusion*

Moving forward, two options within workplace aggression research become readily apparent. The first is to change the conceptualization of workplace aggression to eliminate intent to harm. Elimination of intent in the definition of aggression is feasible, especially in light of the victim-perspective of aggression. Victims of aggression do not have access to intentions behind behaviors, so evaluating aggression in terms of inferred intent may place an unreasonable burden on raters. The second option is to change the measurement of workplace aggression to utilize items sufficiently containing intent to harm. It is the value judgment of this researcher that revision of aggression scales is much more useful because of construct differentiation. If intent to harm is removed from aggression's conceptualization, then it is unclear how aggression is differentiated from other CWBs. Furthermore, likelihood of containing intent to harm is strongly related to behavioral severity. Thus, including behaviors that are likely to include intent to harm would ultimately mean selecting the most severe behaviors. Alternatively, intent to harm could be explicitly measured within items of aggression, such that even minor behaviors would contain intent to harm (e.g., "I gave a dirty look with intent to harm my coworker"). If aggression was measured in this way, the correlation between intent to

harm and behavioral severity would definitionally be reduced to zero[2] because all items would contain intent to harm.

This issue of intent is a valuable piece of aggression because it can distinguish between tangible behaviors and perceptions of behavior. Many behaviors purported to be aggression are subtle in nature; an intention to inflict some form of negative affect on the target is even more important in distinguishing these subtle cues. Furthermore, there may be many motives for an individual's actions at work. There may be instances in which a negative behavior is not intended to inflict harm on another person. For example, an "aggressive" behavior of taking too long of a break may be for the worker's own satisfaction rather than out of an intention to harm another or the organization itself. Explicitly addressing intent in aggression items has the potential to aid in discerning underlying motives of the aggressor.

Overall, the deficient levels of intent to harm in present scales provide evidence that there is a disconnect between the conceptual definition of aggression and its operational measurement. In terms of differentiating workplace aggression and CWB, the issue of intent to harm can be set aside– at least until operational definitions of aggressive behavior or operational measurement changes.

[2] Undefined, technically.

## Study 2

In light of Study 1's finding that aggression scales do not sufficiently measure intent to harm, Study 2 examines inclusion of intent to harm in workplace aggression's measurement. Explicitly addressing intent to harm within aggression items holds potential to discern underlying motives of the behavior, and importantly, holds potential to further distinguish aggression from CWB. As illustrated previously, the focal distinction between aggression and CWB-I is inclusion of intent to harm in aggression. This study examines the reported frequency and factor structure of experienced aggression based on whether intent to harm is explicitly included in aggression items. Specifically, data is collected in two between-subjects conditions, varying whether intent to harm is mentioned in aggression items.

Although workplace aggression is frequently studied with regards to its antecedents and outcomes, there is a dearth of research of research on the factor structure of aggression. Counterproductive work behavior is characterized by an underlying general factor, with a high degree of covariation between counterproductive behaviors. Gruys and Sackett (2003) examine 11 dimensions of CWB in a sample of 353 alumni of a liberal arts institution. These 11 dimensions showed positive manifold, with a mean $r$ = .43 between CWB dimensions, and all correlations between dimensions being positive and significant. Furthermore, Berry, Ones, and Sackett (2007) found a meta-analytic corrected correlation of .62 ($SD_\rho$ = .11) between CWB-I and CWB-O. This correlation is not so high as to suggest that CWB-I and CWB-O are effectively the same construct; however, it is strong enough to suggest an underlying general factor of counterproductivity. Overall, the body of evidence suggests that an individual engaging

in one form of counterproductivity is more likely to engage in other forms of CWB. Similar findings of positive manifold between individual forms of aggression would have implications for selection and other interventions designed to reduce aggression. This leads to the third overall research question.

*Research Question 2*[3]*:* Similar to CWB, is workplace aggression also characterized by a general factor?

A finding of a strong general factor and high intercorrelations of aggressive behaviors may allow for the future study of a common set of antecedents and outcomes. Without a strong general factor, this would indicate the importance of future research on antecedents and outcomes considering each factor of aggression. While addressing the general question of aggression's factor structure, it is also vital to consider if inclusion of intent to harm as well as response perspective change this factor structure.

*Research Question 3:* If there is a general factor, is it common (i.e., the pattern of factor loadings) across aggression A) with and without intent to harm and B) from the perspective of the victim and aggressor?

Research Question 3 is a specific form of the more general questions that are asked and addressed from many angles in Studies 2 – 4, which are: *Does intent to harm change the psychometric properties of workplace aggression? Does response perspective (victim versus aggressor) change the psychometric properties of workplace aggression?*

The sole existence of a general factor of aggression does not preclude the notion that there will be substantive factors a level below general aggression in the hierarchy. For example, even though CWB contains a strong general factor, it is also comprised of

[3] Numbering of research questions is relative to the entire series of studies and does not restart at the beginning of each study.

CWB-I and CWB-O (Robinson & Bennett, 2000; Berry, Ones, & Sackett, 2007), in addition to lower order facets such as theft, attendance, alcohol/drug use, and unsafe behavior (Gruys & Sackett, 2003). Looking beyond a general factor of aggression, the fourth research question addresses the possible existence of aggression's lower order factors.

> *Research Question 4:* Are there additional factors of aggression across administrations A) with and without intent, and B) from victim and aggressor perspectives?

As with the general factor, it may be the case that inclusion of intent to harm and response perspective change aggression's factor structure. If factor structure is not common across these two features, this may suggest lack of structural clarity surrounding lower-level aggression facets.

Finally, the most basic question surrounding inclusion of intent to harm in workplace aggression is if this will affect the base rate of aggression. Many studies often begin by citing the wide-reaching prevalence of aggression in the workplace. For example, a frequently cited estimate is that aggression affects 41% of working Americans every year (Schat et al., 2006). Could lack of inclusion of intent to harm in aggression's measurement cause overestimation of the base rate of aggression? Similarly, it is important to consider the role that response perspective plays on influencing the base rate of aggression. It could be the case that individuals are more likely to report that they are the victim of aggression than the aggressor due to social desirability.

*Research Question 5*: Do the features of A) intent to harm versus no intent and B) victim versus aggressor perspective change the rate of endorsement of aggression among working adults?

**Study Overview**

To study the factor structure and rate of endorsement of aggression, a large item pool consisting of all retrievable aggression scales is administered to a working sample of United States adults. The base aggression items were reworded to produce a victim and aggressor item pool, as well as an item pool with and without intent to harm (e.g., "I have sworn at someone" versus "I have sworn at someone with intent to harm them"). The study takes on a 2 x 2 mixed design, with all participants responding to items as the victim of aggression and the aggressor (within-subjects factor). The between-subjects factor was intent to harm, with one-half of participants receiving all items explicitly addressing intent to harm and the other half receiving items without intent.

## Method

**Participants and Procedure**

This study had 386 participants (43.3% female) ranging in age from 20 to 69 ($M$ = 34.1, $SD$ = 9.7). The sample size was chosen to reach the minimum 2-1 ratio of participants to variables recommended for principal components analysis (Kline, 1979). To participate, participants had to indicate that they were currently employed and had been at their current organization for at least one year because they were asked about aggressive experiences over the past year. Participants were recruited via Amazon Mechanical Turk and compensated $3 for their participation. The sample was 73.6% Caucasian, 6.5% Asian, 6.2% Hispanic, 6.5% Black, and 7.0% multiple ethnicities.

As indicated above, the study followed a 2 x 2 mixed design, with one half of participants randomly selected to respond to the victim-perspective items first, and the other half responding to the aggressor items first. Within the victim and aggressor perspectives, all items were randomized to prevent order effects. Participants indicated how often they engaged in or were the target of the aggressive behaviors in the workplace using the following scale: 1 (*Never*), 2 (*Once or Twice*), 3 *(About Once a Month*), 4 (*About Once a Week*), or 5 (*Daily*).

**Measures**

The same measures that were used in Study 1 were also used in Study 2. As indicated previously, these measures were identified via meta-analytic and primary studies as measures that either directly measure workplace aggression or get cited as measures of aggression. In analyses on the rate of endorsement of aggression, only items loading onto the general factor above a certain threshold are used. By imposing this loading threshold, behaviors that are not highly related to aggression are excluded.

The following scales were used: Neuman and Baron's (1998) Workplace Aggression Scale, Glomb's (2002) Specific Aggressive Incident Scale, Bennett and Robinson's (2000) Workplace Deviance Scale, Einarsen and Raknes (1997) Negative Acts Questionnaire, Spector and Jex's (1998) Interpersonal Conflict at Work Scale, European Next Studies' (Arnetz, Arnetz, & Petterson, 1996; Pai & Lee, 2011) Measure of Workplace Violence, Barling, Rogers, and Kelloway's (2001) Workplace Aggression Questionnaire, and finally Neuman and Keashly's (2004) Workplace Aggression Research Questionnaire (*WAR-Q*). Refer to the Study 1 Method section for descriptions of each scale.

These scales comprised an overall item pool, of which similar items measuring the same behavior were only included once. Items were then rephrased to take the perspective of the aggressor (e.g., “I have spread gossip or rumors about someone”) and the victim (e.g., “Someone has spread gossip or rumors about me”), as well as rephrased to explicitly include intent to harm (i.e., adding the phrase “with intent to harm” to all items) versus not including intent to harm. This resulted in four total item pools.

**Analyses**

It was determined that advanced screening for careless responders using the metrics from Study 1 was not feasible. Because personal experiences with aggression were the sole focus of this study, it was feasible that participants simply had no experiences with aggression at work. If a respondent selected “Never” for all aggression items because they had no aggressive experiences, this participant would be inappropriately flagged by the long-string index. The psychometric synonyms flag identified 78 participants, most of whom displayed plausible response patterns upon manual examination. Because of the low base-rate of aggression, the Mahalanobis distance function was unable to compute because both the intent and no intent data matrices were singular. Furthermore, screening participants on outliers alone is opposed by most testing professionals, unless there is evidence that the outliers identified are erroneous (SIOP Principles, 2018). In lieu of advanced careless responding metrics, 24 participants were excluded due to either A) missing all attention check items, B) missing one attention check item and completing the survey in an implausible amount of time (less than 8 minutes for 220 survey items), or C) displaying an implausible response pattern, with a respondent mean near the scale midpoint for all aggression items and

frequent endorsement of extremely low base rate items (i.e., “I have threatened someone with a gun”, “I have failed to warn someone of impeding danger with the intent of harming them”). Participants were also blocked from taking the survey more than once by identifying duplicate IP addresses. If participants left items blank, they were requested (though not required) to fill in an answer. There were only two participants with any missingness, both of which had less than 1% of responses missing.

To address the first research question of the degree to which aggression is characterized by a general factor, parallel analysis was utilized to evaluate the number of components to extract from the aggression data. Parallel analysis creates a random dataset with the same dimensions as the variables of interest, calculates correlation matrices from both datasets, and then calculates eigenvalues from each dataset (i.e., the observed and random data). The number of components to extract is based on at what point the eigenvalues from the random data exceed the observed data, indicating factors beyond this point represent random noise (Horn, 1965).

Then, four principal components analyses were conducted on each of the four item pools, using factor numbers informed from parallel analysis results. Principal components analyses were also conducted restricting each solution to one factor to evaluate general factor loadings in isolation. To examine whether the general factor is common across the features of response perspective and intent, congruence coefficients of loadings for each combination of the four item pools were calculated. Comparing congruence coefficients allows one to evaluate the similarity of extracted factors across different samples or item pools (Lorenzo-Seva & ten Berge, 2006). Parallel analysis and principal components analysis were conducted using the “psych” package in R (Revelle, 2019).

Based on the finding of an aggression general factor in this study, a bifactor model was chosen to examine the additional factors of aggression beyond a general factor. A bifactor model specifies that covariance among item responses are accounted for by a single general factor reflecting common variance across all items, as well as group factors which reflect clusters of items that share common variance (Reise, 2012; Jennrich & Bentler, 2012). In this model, the general and group factors are rotated to be orthogonal from one another. Solutions are analyzed with varying factors from two to eight, examining clarity of factor loadings, overall fit statistics, and congruence coefficients across the four item pools.

To address the question of rate of occurrence across intent conditions and response perspectives, Cohen's *d* values are calculated. In order to only include items measuring aggression above a certain level, results from the bifactor analysis were used. Aggression items were only analyzed if they loaded onto the general factor at three specified thresholds (loadings > .40, .50, and .60), calculated from a one-factor principal components analysis.

## Results

Overall, experience of workplace aggression was found to be a low-base rate occurrence. The mean experienced aggression and perpetrated aggression across the two samples of $N$ = 193 was 1.23 ($SD$ = .25), which fell between "Never" and "Once or Twice". There was a strong positive relationship between item means from the victim and aggressor perspectives ($r$ = .74), indicating that items with higher reported frequency tended to be the same for perpetrated and experienced aggression. In the full item pool, there was also a relatively strong positive relationship between aggression

means (with intent) from the victim perspective and the aggressor perspective, $r = .57$. A check for outliers in this bivariate relationship revealed one outlier, which, when removed, increased this correlation to $r = .65$.

Research Question 2 asked if workplace aggression was characterized by a general factor. This was examined via principal components analysis, conducted on each item pool separately (Aggressor-Intent/No Intent, Victim- Intent/No Intent). Thus, principal components analyses were conducted using each sample of $N = 193$ participants for approximately 100 items each, removing 1-2 items per item pool with no variance. As initial evidence of the general factor, Figure 1 presents parallel analysis plots of eigenvalues for each component of the Intent-Aggressor and Intent-Victim pools. In each plot, the first component has an eigenvalue more than three times the next largest eigenvalue, indicating that the first component explains a large proportion of the variance in item responses. As parallel analysis suggested an 8-factor solution, further principal components analyses were conducted by restricting factors to eight, and subsequently reducing in increments of one down to a two-factor solution. For the Intent-Aggressor and Intent-Victim item pools, across each factor solution, on average the first factor explained 62% of the total variance. Taken together, the evidence from the parallel analysis and principal components analyses suggest a strong general factor of workplace aggression.

Research Question 3 asked if the general factor was common across intent versus no intent conditions and victim versus aggressor perspectives. Put another way, this question asks if the general factor manifests in the same way regardless of item pool. Table 7 presents congruence coefficients across the four general factors of aggression,

which indicate that the general factor of aggression is highly similar across intent to harm and response perspective. As a benchmark, Lorenzo-Seva and ten Berge (2006) conduct evaluations of the congruence coefficient and present interpretation guidelines that factors with congruence between .85 and .94 display fair similarity, and factors with congruence above .95 can be considered equal. Based on these thresholds, the general factor emerges across the four item pools in equivalent form because all congruence coefficients fall between .97 - .98. Furthermore, there was a relatively high degree of covariation between responses to items with and without intent to harm, with item means from both item pools correlating $r = .83$. While there are mean differences across intent versus no intent items, the pattern of endorsement is largely maintained across conditions.

Because of the low base-rate of aggression's occurrence, the simple fact that an item that is endorsed more frequently could be the major determinant of that particular items' loading on the general factor. To address this concern, the correlation between average item mean and average item loading for all common items displaying variance across each of the four pools was calculated. This correlation was found to be $r(82) = .57$, $p < .01$. Thus, rate of endorsement is a substantial predictor of item loading, although it is not the sole determinant of loading.

Research Question 4 asked if there were factors of workplace aggression, and if these factors were common across intent condition and response perspective. A bifactor model was used to examine additional factors beyond the general factor. Factor loadings, proportion of variance explained, and overall fit statistics were examined across each of the four item pools for the bifactor analysis across solutions from two to

eight factors. This was a judgmental process that was conducted by the present researcher and reviewed by his advisor. It was judged that the six-factor solution was most clear with regards to aggression's factors because there were five conceptually meaningful factors beyond the general factor across each of the four six-factor solutions. The factors beyond six were not judged to be conceptually meaningful, and reducing the number of factors to below six resulted in a loss of factors that appeared to measure construct-relevant variance in aggression.

To define aggression's factors, more weight was given to the highest loading items' content domains, although all items that loaded onto the factor were evaluated for content domain. There were three aggression factors that emerged across all four item pools: physical aggression, verbal aggression, and social undermining. There was one factor that emerged common to the intent to harm item pools: anger. A sexual aggression factor was also common to two item pools, and a work avoidance[4] factor and secondary factors of verbal and physical aggression were specific to only one item pool each. Table 8 presents examples of items with the highest loading on each factor to illustrate the nature of each aggression sub-factor. Overall, it was clear that there were substantive factors of aggression beyond the general factor, although only half of these factors were shared across all item pools.

The second part of Research Question 4 asked if the factors were common across item pools. Table 9 presents congruence coefficients across each of the four bifactor analyses with six factors. This table shows that although the general factor comes across

[4] The position developed in this work is that workplace aggression must be directed towards other individuals. As such, the work avoidance items fall outside the definition of aggression because they refer to harm inflicted upon the organization. These items were included in this analysis to include a broad pool of aggression items, though they will not be included in the final workplace aggression item pool.

clearly, the additional factors do not share a high level of similarity. All congruence coefficients for additional factors were less than .85. the threshold to indicate that the loadings display fair similarity. There are competing interpretations for the lack of clarity of aggression's factor structure beyond the general factor, which will be addressed in the Discussion.

Research Question 5 asked if the features of intent to harm and response perspective changed the rate of endorsement of aggression. Table 10 presents descriptive statistics and standardized mean differences (*d*-values) for frequency of aggression across response perspective and inclusion of intent to harm. It was important to only include items that contain sufficient measurement of aggression and not CWB or other related constructs. Thus, only items that loaded on aggression's general factor above three specified thresholds (loadings > .40, .50, and .60) were used, calculated from a one-factor principal components analysis. Multiple loading cut-offs were utilized to explore a range of stringency for what constitutes a true aggressive behavior. Comparing intent to harm versus no intent in Table 10, small to moderate *d*-values indicate that aggression was experienced more frequently when intent to harm was not included in the item. Similar *d*-values across levels of factor-loading stringency suggest the intent to harm finding is not dependent on the stringency of what constitutes a true aggressive behavior. It is noted that the Intent-No Intent *d*-values in the 'loadings > .60' category are slightly smaller than those in the other two categories. However, the 'loadings >.60 category includes only 12 items and as such, the other two categories are likely to have more stable findings. When examining response perspective, aggression is consistently reported with higher frequency when the respondent is a victim of aggression rather than

an aggressor. Cohen's *d*'s indicate these differences are consistently of moderate magnitude.

## Discussion

This study has a number of implications for workplace aggression and its subsequent study. First, aggression displayed mean differences across intent conditions and response perspective. Aggression items specifically including intent to harm were endorsed a small to moderate degree more than aggression items that did not include intent to harm. Thus, prior measures of aggression that do not contain intent to harm have overestimated workplace aggression's frequency. Taken in conjunction with the findings of Study 1, which found that prior aggression scales did not sufficiently contain intent to harm, this study indicates that past research has overestimated the frequency of workplace aggression. Similarly, aggression was endorsed to a greater degree when the respondent reports from the victim perspective than the aggressor perspective. Thus, individuals consistently perceive that they are the victim of aggressive behaviors more frequently than they report acting aggressively towards others. This finding may be the result of social desirability bias such that respondents are less likely to report the negative behaviors they engaged in at work. However, this could also be a 'real' finding in that individuals perceive that others intended to harm them more often than there truly is intent to harm.

A second implication is that aggression is characterized by a strong general factor, as evidenced by principal components and parallel analysis. As CWB is characterized by a general factor (Berry, Ones, Sackett, 2007; Gruys & Sackett, 2003) and many of the behaviors that constitute aggression are similar to CWB, this conclusion is relatively

intuitive. The presence of aggression's general factor gives initial evidence indicating that it is more important to focus on measuring aggression at the factor-level rather than the facet-level because aggressive behaviors are likely to display a substantial degree of intercorrelation. This finding also has implications for selection and other HR interventions because if an individual engages in one aggressive behavior at work, they are likely to engage in other forms of aggression at work. Similarly, if an individual is the victim of an aggressive behavior, they are likely to be on the receiving end of other aggressive behaviors. Relatedly, aggression from the victim and aggressor perspective displayed a strong positive relationship. This supports Glomb's (2002) finding of the "cascading" effect of aggression, such that both parties become aggressive regardless of who engaged in the aggressive behavior first. The present study data cannot speak to specific aggressive incidents or directionality, although it does show a general relationship between experienced and enacted aggression.

Another implication is that the general factor of aggression remains largely unchanged across the victim and aggressor perspective and the inclusion of intent to harm or not. However, beyond the general factor, factors of aggression show little similarity across the levels of intent to harm and response perspective. There are two plausible explanations for this finding. First, this could suggest that aggression's structure should not be interpreted beyond a general factor. The lack of similarity across factors of the four item pools could indicate that factors beyond the general factor are largely just "noise". Another interpretation of the low factor similarity suggests that intent to harm and response perspective do, in fact, change the factor structure of aggression's lower-order factors. It is observed that the item loadings on these factors do show conceptually

meaningful construct variance in workplace aggression, as represented by the repeated emergence of the physical aggression, verbal aggression, and social undermining factors. Thus, it is the view of the present researcher that measurement of the factors of aggression beyond the general factor is a theoretically-relevant task for future research. Although these forms of aggression are likely to be correlated with one another, they do represent different aggressive behavioral manifestations. Interventions to combat aggression in the workplace could take on different forms depending on the most common type of aggression that occurs within a given work unit.

*Limitations*

This study is not without limitations. First and foremost, data collection was conducted online via Amazon MTurk. There have been recent concerns about bots responding to surveys on MTurk, as well as the general quality of data collected on this platform (Cheung, Burns, Sinclair, & Sliter, 2017; Kennedy, Clifford, Burleigh, Jewell, & Waggoner, 2018). The fact that respondents could have plausibly had no aggressive experiences in the past year prevented use of multiple techniques used to screen for careless responding. However, there was extensive manual screening of responses to determine patterns of implausible responding in addition to use of attention check-based and time-based screening of respondents. Second, determining the number of factors of aggression via factor analysis is inherently a judgmental process. The soundness of the six-factor solution rests upon the judgment of the two researchers involved in this study. Future research would benefit from the replication of the six-factor structure of workplace aggression identified in the present study. This topic will be examined further in this program of research.

*Conclusion*

Overall, our understanding of the frequency and factor structure of workplace aggression has been restricted by scales that do not sufficiently measure the aggressor's intent to harm others. As shown in this study, the inclusion of intent to harm in aggression scales has non-trivial implications for the frequency of aggression's occurrence as well as its factor structure. A major question that remains is whether intent to harm influences aggression's nomological network. Subsequent studies in this program of research focus on aggression's correlates as well as the development and validation of a workplace aggression scale that displays construct-validity with regards to intent to harm and construct-valid measurement of aggression's lower-order factors.

## Study 3

This study has two primary foci: A) developing a construct-valid assessment of workplace aggression that measures intent to harm, and B) examining aggression's nomological network. This research begins with development of a construct-valid aggression scale with respect to intent to harm. The full item pool of 200 items is too large to be practical in academic and HR intervention scenarios. Thus, the full (200-item) pool was reduced to 50 items by removing overlapping items and selecting items that covered distinct construct space within aggression. Then, data was gathered on this set of 50 items and analyses were conducted to build a scale short enough to be practical. Out of the 50-item pool, items were selected that displayed sound psychometric properties and construct coverage. This resulted in a 20-item scale that is called the Intentional Workplace Aggression Scale (the IWAS). This scale has versions for both the aggressor (IWAS-A) and the victim (IWAS-V) response perspectives. Upon construction of the scale, the same focal research questions are addressed for the IWAS surrounding rate of occurrence and factor structure. External correlations of the IWAS are also explored. First, this study examines if the same occurrence rates of aggression are observed when using the IWAS, as well as examination of the factor structure of this newly devised scale compared to the factor structure observed in Study 2.

*Research Question 6:* What is the rate of occurrence of aggression as measured by the IWAS? How does this rate of occurrence compare to the full item pool and across intent conditions (i.e., intent versus no intent)?

*Research Question 7*: What is the factor structure of aggression as measured by the IWAS, compared to the full item pool and across intent conditions?

Given the finding that intent to harm affects aggression's occurrence rate as well as its factor structure, a major question remaining is whether intent affects aggression's nomological network. To the extent that prior research has not sufficiently assessed intent to harm, our understanding of aggression's external correlates may be inaccurate. Study 2 found that aggression had a lower endorsement rate, and subsequently less variance, when intent to harm was included in aggression's measurement. This may affect correlations with other variables as well. If aggression with intent has lower variability, this could reduce aggression's covariance with other variables, thereby reducing the correlations with these variables. Similarly, it is important to investigate the effect of response perspective on aggression's correlates to evaluate the effect of method of measurement. Thus, the following research questions are examined:

*Research Question 8:* How does the IWAS correlate with external variables, as compared with the full aggression item pool?

*Research Question 9*: Do intent to harm and response perspective influence workplace aggression's correlations with external variables?

If there are discernable facets of aggression beyond the general factor, correlations should similarly be examined for differential relationships at the facet-level.

*Research Question 10*: Do aggression's facets display differential relationships with external variables?

Workplace aggression's relationship with nine other constructs is examined, selected on the basis of meta-analytic correlations with workplace aggression (Hershcovis et al., 2007) and CWB (Berry, Ones, & Sackett, 2007). CWB was used as an additional criterion because meta-analytic correlations with aggression were not always available.

Variables at multiple positions in the causal chain (i.e., predictors, outcomes) are examined to gain a broad empirical understanding of aggression's correlates. Table 11 presents meta-analytic estimates of workplace aggression, CWB, and all variables included. Although the Introduction section contains a comprehensive literature review, constructs in this study are briefly reviewed by providing construct definitions, theoretical bases for relationships with aggression, and meta-analytic correlations.

*Trait Anger.* Trait anger is defined as the predisposition to respond to situations with hostility (Spielberger, 1991). Individuals high in trait anger are likely provoked into aggression more easily because they perceive situations as frustrating (Hershcovis et al., 2007). The meta-analytic correlation between trait anger and aggression was $\rho$ = -.37 (Hershcovis et al., 2007).

*Negative and Positive Affect.* Negative affect reflects the degree one experiences unpleasant, distressing emotions and positive affect reflects the tendency to experience pleasant emotions (Watson, Clark, & Tellegen, 1988). Negative affect is theoretically related to aggression because individuals high in negative affect are more reactive to negative events (Douglas & Martinko, 2001). Negative affect displays a meta-analytic correlation with aggression of $\rho$ = .28. Though not meta-analyzed, positive affectivity is examined due to its conceptual similarity to negative affectivity.

*Big Five Personality Factors.* Personality factors (specifically, personality-based integrity tests) have played an important role in predicting CWB (Ones, Viswesvaran, & Schmidt, 1993). As aggression and CWB both involve counterproductive actions contrary to the organization's goals, we view personality factors as potentially useful predictors of workplace aggression. The three factors that comprise the stability meta-trait (Hirsh,

DeYoung, & Peterson, 2009), namely conscientiousness, agreeableness, and emotional stability, have all proved useful in predicting CWB-Interpersonal. Berry, Ones, and Sackett (2007) examined the relationships between personality and CWB meta-analytically; agreeableness, emotional stability, and conscientiousness predicted CWB-Interpersonal $\rho$ = -.46, -.24, and -.23, respectively. As neither openness $\rho$ = -.09 nor extraversion $\rho$ =.02 displayed meaningful relationships with CWB-I, these two factors are not examined in the present study. As the metatrait stability is defined by maintenance of reliable organization of behaviors and psychological functioning (DeYoung, 2006), it may be the case that individuals high in stability have the psychological and behavioral self-regulation to avoid engaging in workplace aggression.

Each factor of the Big Five is comprised of two facets that prove to be differentially predictive for a variety of outcomes (DeYoung, Quilty, & Peterson, 2007). While the Big Five factors have been examined meta-analytically with respect to CWB, the aspects have not, nor is there primary data on aspect-level relationships with aggression. Focusing on the three factors examined in this study, conscientiousness is broken down into the aspects of industriousness, defined as self-discipline and the tendency to work hard, and orderliness, comprising neatness, perfectionism, and attention to rules. Theoretically, the self-discipline of industriousness may drive the relationship with aggression because of the self-regulation involved in inhibiting aggressive actions at work. Agreeableness is comprised of compassion, defined as emotional attachment to and concern for others, and politeness, defined as avoidance of aggressive or norm-violating strategies. Compassion and politeness appear conceptually related to aggression, as a lack of emotional attachment and lack of avoidance for norm-violation may increase

likelihood to aggress others at work. Finally, emotional stability is comprised of the aspects of volatility, defined as the tendency to get emotionally labile and upset, and withdrawal, which is the tendency toward anxiety and depression. It may be the case the volatility aspect of emotional stability drives the emotional stability-aggression relationship because volatility involves the active negative affect (i.e., anger, irritation) that is likely to drive aggressive actions. (DeYoung, 2015; DeYoung, Quilty, and Peterson, 2007)

*Organizational Justice.* Justice is, "the perceived adherence to rules that reflect appropriateness in decision contexts" (Colquitt & Zipay, 2015, p. 76). If one perceives procedures or outcomes allocated at work are not done so in a fair manner, this individual may be more likely to take aggressive actions against those that have wronged them. Organizational justice is comprised of multiple facets including procedural, distributive, and interactional justice. Procedural justice is defined as the appropriateness in decision-making procedures that include voice, consistency, and accuracy (Colquitt & Zipay, 2015). Distributive justice focuses on the decision-making outcomes rather than procedures, and involves evaluations of outcome equity and equality (Colquitt & Zipay, 2015). Finally, interactional justice reflects the appropriateness with which procedures are enacted as they relate to interpersonal treatment of the individual (Colquitt & Zipay, 2015). Hershcovis and colleagues (2007) found procedural and distributive justice to correlate with interpersonal aggression $\rho$ = .21 ($k$ = 11, $N$ = 3,257, $CI_{unspecified}$ = .07, .35) and .15 ($k$ = 11, $N$ = 3,257, $CI_{unspecified}$ = .12, .17), respectively. Interactional justice has not been examined in relation to workplace aggression.

*Job Satisfaction.* Job satisfaction is defined as cognitive and affective reactions to

one's job (Dalal, 2012). Individuals who are not satisfied with their job may be more likely to take actions against individuals at work due to their thoughts and feelings about their work situation. Job satisfaction is comprised of many facets such as satisfaction with the job in general, people at work, pay, opportunities for promotion, and satisfaction with supervisor(s). Fundamentally, the definition of each facet is the same, just with a different target (cognitive and affective reactions towards work, pay, etc.). Hershcovis and colleagues find overall job dissatisfaction displays a small positive correlation with interpersonal workplace aggression, $\rho = .18$ ($k = 9$, $N = 2{,}209$, $CI_{unspecified} = .08, .28$). However, job satisfaction's facets have not been examined in relation to workplace aggression.

*CWB.* There is a lack of clarity surrounding the distinctness of these two constructs, as evidenced by the Hershcovis et al. (2007) meta-analysis including measures of CWB in the aggression database. At present, there is no large-scale examination of the relationship between workplace aggression and CWB. Spector and colleagues (2006) data indicates there is overlap at the lower-order facet level. Because these two constructs do display a conceptual distinction between one another, it is important to evaluate whether this also translates into an empirical distinction. The inclusion of the two intent conditions allows for comparison of aggression and CWB both A) when they are not conceptually distinguished (i.e., no intent condition) and B) when they are conceptually distinguished (i.e., intent condition).

*Research Question 11:* Is aggression measured by the IWAS distinguished from CWB?

While evaluating zero-order correlations will inform about the magnitude of bivariate relationships, it cannot speak to the strongest predictors of aggression after accounting for other variables. A major question is whether individual difference variables or situational variables are more likely to predict aggression. Hershcovis and colleagues (2007) do meta-analyze both individual difference and situational predictors of aggression, finding that both display substantial relationships with aggression. The authors also create a meta-analytic path model. However, bivariate relationships are meta-analyzed and contribute to the path model, meaning that relationships and samples examined are in many cases not overlapping. For example, comparing the relationship of agreeableness with aggression in one set of studies and job satisfaction with aggression in a largely non-overlapping set of studies does not provide a head-to-head comparison of the relative strength of these two predictors. To address this limitation, Glomb (2010) collected a set of individual difference and situational predictors of aggression in three separate samples. Within each of these samples, the relative strength of individual predictors of enacted and experienced aggression was examined. Individual difference predictors and experienced aggression were the strongest predictors of enacted aggression, whereas organizational predictors (specifically job-related stress) were the strongest predictors of experienced aggression (Glomb, 2010). The present study conducts similar analysis to evaluate the relative strength of individual difference and situational predictors, as well as reciprocal aggression.

This study extends the work of Glomb (2010) by examining aggression with intent to harm. Additionally, relative importance analysis is utilized rather than hierarchical multiple regression, due to the high level of instability in results based on

order of entry into a hierarchical model. In essence, simple comparison of zero-order correlations or regression weights to address relative strength of predictors is inappropriate. In the case that predictors are uncorrelated, zero-order correlations and regression weights are equivalent, allowing interpretation of coefficients in terms of relative strength. However, these two are not equivalent if predictors are correlated, preventing interpretation of weights as relative strength indices (Budescu, 1993; Johnson & LeBreton, 2004). Furthermore, in the case of multicollinearity, regression weights are highly unstable. Thus, relative importance analysis has been developed to allow interpretation of regression results for relative strength of prediction comparisons. Relative importance analysis is the proportional contribution of each individual predictor to $R^2$, holding other predictors constant (Johnson & LeBreton, 2004).

*Research Question 12*: What are the strongest predictors of enacted and experienced aggression, holding all other predictors constant? Do response perspective and inclusion of intent to harm influence these relationships?

## Study Overview

A pool of 50 aggression items were administered to a sample of working United States adults, along with nine other constructs. This study uses a selected set of the same base aggression items from Study 2 that were reworded to produce a victim and aggressor item pool, as well as an item pool with and without intent to harm. This study is also a 2 x 2 mixed design, with response perspective (victim versus aggressor) as the within-subjects factor and intent to harm (with versus without intent) as the between-subjects factor.

# Method

## Participants and Procedure

This study had 502 participants (44% female) ranging in age from 19 to 71 (*M* =34.0 years old, *SD* =9.2). To participate, participants indicated that they were currently employed and had been employed at their current organization for at least one year. This tenure requirement was imposed because participants are asked about experiences with aggression over the course of the past year. Participants were recruited via Amazon MTurk and compensated $4.00. The sample was 69% Caucasian, 7% Asian, 5% Hispanic, 11% Black, 6% multiple ethnicities, and 2% chose not to respond. Aggression response perspective was counterbalanced, with one half of participants randomly selected to receive victim-perspective items first, and the other half receiving aggressor items first. Within the victim and aggressor perspectives, items were randomized.

Seventy-seven participants were removed from analyses due to insufficient effort responding flags (Huang, Liu, & Bowling, 2015), leaving a total sample size of *N* =425. The following IER flags were used to identify careless responders: attention check items, long-string index (Huang et al., 2012), psychometric synonyms and antonyms (Meade & Craig, 2012), and Mahalanobis distance (Mahalanobis, 1936). Overall, IER represented a greater problem in this dataset than previous datasets. There were 14 participants flagged for missing attention check items (i.e., “Please select response option “Daily”). 14 participants were also flagged for completing the survey in an implausible amount of time. There were 8 participants flagged for having a long-string index greater than 25, 7 flagged for low correlations on the psychometric synonyms item pairs (above the +.60 threshold) and no participants flagged on psychometric antonyms. 12 participants were

flagged as multivariate outliers. Participants' responses were also examined if they responded near the aggression scale midpoint (3.0), more than two *SD*'s higher than the overall aggression means. These participants were excluded if they also reported frequent experience of two extremely low base-rate aggression experiences (physical abuse and sending unfairly negative information to higher levels in the company), altogether indicating random responding. There were 32 participants flagged by this metric. After excluding participants if they were flagged by any one of these criteria, there were 75 participants removed. If participants left items blank, they were requested (though not required) to fill in an answer. There were only 4 participants with any missingness; three of which had less than 1% of responses missing, and one of which had 12% of responses missing.

This study also uses the University of Minnesota graduate student dataset of $N$ = 12. Sorting of items into facet categories was used to develop the IWAS facet scales. Participants rated each of the 50 aggression items in this study on whether the item was a measure of verbal aggression, physical aggression, sabotage (now referred to as social undermining), or "does not fit".

**Measures**

*Workplace Aggression.* The same items found in Studies 1 and 2 were utilized, which drew from nine existing workplace aggression scales. Based on rate of occurrence (items with higher *M*'s and *SD*'s received preference) and loading onto the general factor of aggression (higher loading items received preference), the pool of 200 items was narrowed down to 50 items for use in the present study. These scales comprised an overall item pool, removing overlapping items. Participants indicated how often they

engaged in or were the target of the aggressive behaviors in the workplace over the past year using the same scale as Study 2: 1 (*Never*), 2 (*Once or Twice*), 3 *(About Once a Month*), 4 (*About Once a Week*), or 5 (*Daily*).

*Personality*. The personality factors of Conscientiousness, Agreeableness, and Emotional Stability were measured with the Big Five Aspect Scale (BFAS; DeYoung, Quilty, & Peterson, 2007). Each factor was measured with 20 items. Within each factor are two aspects, measured by ten items per aspect. Conscientiousness' aspects are industriousness ("I get things done quickly") and orderliness ("I want every detail taken care of"), and displayed mean α's of .89 and .84, respectively across both conditions. Agreeableness' aspects are compassion ("I sympathize with others' feelings") and politeness ("I avoid imposing my will on others"), and displayed mean α's of .92 and .79, respectively. Emotional stability's aspects are volatility ("I get angry easily) and withdrawal ("I am filled with doubts about things"), and displayed mean α's of .93 and .91, respectively. All personality items were measured on the following scale: 1 (*Strongly Disagree*), 2 (*Disagree*), 3 (*Neutral*), 4 (*Agree*), or 5 (*Strongly Agree*).

*Trait Anger*. We used Spielberger and Sydeman's (1994) 15-item Trait Anger Scale. Example items include "I have a fiery temper" and "When I get mad, I say nasty things." Respondents answer based on how they generally feel, measured on a scale ranging from 1 (*Almost Never*), 2 (*Sometimes*), 3 (*Often*), to 4 (*Almost Always*). Trait anger displayed a reliabilities of $\alpha = .91$ in the intent condition and .92 in the no-intent condition.

*Negative and Positive Affectivity*. The two affectivity constructs were assessed using Watson and Clark's (1994) abbreviated PANAS-X scale. Positive and negative

affectivity were measured with 10 items each, and rated on feelings over the past year. Items were single-word emotions such as “Upset” and “Scared” (Negative Affectivity) or “Excited” and “Attentive” (Positive Affectivity). Negative and Positive Affect were measured on the following scale: 1 (*Very Slightly Or Not at All*), 2 (*A Little*), 3 (*Moderately*), 4 (*Quite a Bit*), and 5 (*Extremely*). Negative affectivity displayed a reliability of $\alpha = .91$ in both the intent and no-intent conditions, and positive affectivity displayed reliabilities of $\alpha = .93$ and .92 in the intent and no-intent conditions, respectively.

*Organizational Justice Perceptions*. Organizational justice was measured with the scale reported in Niehoff and Moorman (1993). This scale contains five items measuring distributive justice (“I think that my level of pay is fair”), six items measuring procedural justice (“Job decisions are made by the general manager in an unbiased manner”), and nine items measuring interactional justice (“When decisions are made about my job, the general manager treats me with respect and dignity”). Distributive justice, procedural justice, interactional justice displayed mean $\alpha$’s of .91, .93, and .97 across conditions, whereas overall justice displayed a mean $\alpha$ of .98. All organizational justice perceptions were measured on the following scale: 1 (*Strongly Disagree*), 2 (*Moderately Disagree*), 3 (*Slightly Disagree*), 4 (*Neutral*), 5 (*Slightly Agree*), 6 (*Moderately Agree*), and 7 (*Strongly Agree*). Each of the three facet-level justice scores were unit-weighted to form an overall justice composite.

*Job Satisfaction*. Job satisfaction was measured with Gillespie and colleagues (2016) 38-item Abridged Job Descriptive Index (aJDI). The job satisfaction facets of job in general, people in job, work itself, pay, opportunities for promotion, and supervision

were all assessed with six to eight items each and unit-weighted to compute an overall job satisfaction score. Job Satisfaction was measured using a simple “Yes” or “No” for each item, depending on whether the item or word described their job. Descriptor words were relative to the target of satisfaction. For example, items include “Better than most” (Job in General), “Boring” (People), “Fascinating” (Work itself), “Underpaid” (Pay), “Opportunities somewhat limited” (Promotions), and “Knows job well” (Supervisor). Weighting schemes for the individual facets vary; however, the mean intercorrelation between facets of job satisfaction was .60, indicating a level of consistency in responses across all facets. Unit-weighting was used to form an overall satisfaction composite because there were no a priori hypotheses about the relative importance of facets. Reliabilities for the individual facets ranged from $\alpha = .63$ to .93 , and overall satisfaction displayed a mean $\alpha = .96$.

*Counterproductive Work Behavior*. CWB was measured with the short version (32-item) of Spector and colleagues (2006) Counterproductive Work Behavior-Checklist (CWB-C). Participants responded based on the degree to which they engaged in various behaviors such as, “Came to work late without permission” and, “Insulted or made fun of someone at work”. This scale consists of both organizational and interpersonal CWB items. It should be noted that the interpersonal CWB items are distinguished from aggression because they do not include reference to intent to harm another. CWB was measured on the following scale: 1 (*Never*), 2 (*Once or Twice*), 3 (*Once or Twice per Month*), 4 (*Once or Twice per Week*), and 5 (*Every day*). CWB displayed an $\alpha = .96$ and .93 in the intent and no-intent conditions.

**Analyses**

All analyses addressing rate of occurrence are assessed via Cohen's *d.* All parallel and principal components analyses were conducted on the IWAS scales with intent included because these items include construct-valid measurement of aggression. Factor structure analyses began with parallel analysis. Using the number of factors suggested by the parallel analysis, principal components analysis was undertaken with an orthogonal bifactor rotation via the 'psych' package. Bifactor rotation was used to estimate the general factor in addition to substantive factors beyond the general factor. To determine the substantive nature of the facets (i.e., principal components), the highest loading items for each principal component were identified. Generally, items loading greater than |.40| on a component were considered loading as a representation of that component, with the exception of the general factor because almost all items loaded relatively strongly onto the general factor. Naming of facets and determining which items mapped onto which facets used both quantitative data and expert judgment. Component loadings from the IWAS-A and IWAS-V, from the full 50-item intent pools, and expert judgment from the present researcher and subject matter experts were used to determine which items measured specific facets.

All correlational analyses were conducted using pairwise deletion. However, correlations using pairwise deletion were compared to those estimated with full information maximum likelihood estimation (via the 'psych' package) to evaluate robustness of estimation to missing data. Correlation matrices were compared at the factor level, excluding facets due to factor-facet collinearity that created matrices that were not positive definite. Internal consistency reliabilities were estimated using Cronbach's alpha and correlations were corrected for unreliability in both variables-

correcting to the construct-level. Correlations were corrected to the construct-level to evaluate the “true” relationship rather than only correcting for the predictor’s unreliability, as is typical of selection research.

Finally, relative importance analysis is undertaken to assess predictor strength relative to one another in predicting aggression. This research uses the LMG metric of relative importance (Lindeman, Merenda, & Gold, 1980; Gromping, 2006). LMG uses sequential sums of squares from the linear regression model (which depend on order of entry in the regression model), averaged over all possible orderings of predictors (Lindeman et al., 1980; Gromping, 2007). This index is one of two recommended by Johnson and LeBreton (2004) in their review of relative importance indices. There are four base regression/relative importance analyses run following a 2 x 2: prediction of enacted aggression (IWAS-A) and prediction of experienced aggression (IWAS-V) across the two levels of intent. Factor-level individual difference and situational predictors are used (e.g., conscientiousness rather than industriousness and orderliness) due to collinearity issues for inclusion of both factors and their facets. CWB was not included because it is conceptualized as a criterion occupying similar space as aggression. Age and gender are entered into the analyses as control variables. All predictor variables are standardized except for age and gender. Standardized regression weights are presented followed by the relative importance indices. Regression was conducted in base R and relative importance analysis was conducted with the “relaimpo” R package (Gromping, 2006).

For each of the four regression/relative importance analyses, there are two models run: one including the opposite aggression perspective (i.e., IWAS-V for the criterion of

IWAS-A) and one excluding this variable. Aggression was excluded from the second model for two reasons: A) to allow for direct comparison of individual versus situational predictors, and B) because the data used is a cross-section of industries and organizations. As the occurrence rate of aggression may vary substantially across industries and individual organizations, using aggression as a predictor has the potential to represent between-industry or between-organization aggression effects rather than individual-level effects.

**IWAS Scale Development**

To narrow down items into a final scale, item *M*, *SDs*, item discrimination, and construct coverage were examined. For item *M* and *SD*, items with higher means and more variability were selected. Items displaying higher discrimination (via item-total correlation and the "a" parameter in a 2PL model) were also selected, when possible. Factor analyses from Study 2 revealed that many items measured three facets across all item pools. These facets were verbal aggression, physical aggression, and social undermining. Items were selected such that all aggression facets were covered by two or more items. Relationships with other variables were not used as a criterion because the goal of scale development was construct-validity rather than criterion-related validity.

While scale development is inherently a judgmental process, approximately equal weight was given to the criteria of: A) central tendency and variability, B) item discrimination, and C) facet coverage. To evaluate central tendency, variability, and item discrimination, values for each criterion were split into thirds, with the top third considered "good", middle third "moderate", and lower third "poor". Item discrimination was evaluated via both the classical test theory and item response theory (IRT)

perspectives. Item total correlations were used from the classical test theory perspective, documenting the degree to which an individual item response correlates with the full scale-score. Item total correlations above .80 were considered “good” via classical test statistic perspective. From the IRT perspective, the “a” parameter documents item discrimination and represents the slope of the item characteristic curve. A 2-parameter logistic model was used to calibrate the 50-item pool, estimating the location (i.e., “b”) parameter and the discrimination parameters. Item responses were recoded as 0 (“Never”) and 1 (all other response options) due to low rates of endorsement making estimation of category (i.e., response option) locations difficult via a polytomous IRT model. “a” parameter values above 3.85 were considered “good” via the IRT perspective, as this comprised the upper third of the “a” parameter distribution. Values were judged to be a measure of a given facet if they loaded above |.40| on that facet in the Study 2 bifactor analyses. Internal consistency reliability was also examined using random draws of a fixed number of items and found reliability virtually unchanged, so reliability was not used as a decision-making criterion. The psychometric properties of various scale lengths were examined to reach the conclusion that a 20-item scale appropriately balanced concerns of scale length, scale reliability, and construct coverage.

Facet determination for the 20-item IWAS was initially made by using factor loadings from the intent-aggressor and intent-victim item pools from Study 2 and Study 3 data, as well as rational judgment by the present researcher. The initial facet determinations resulted in 8 items measuring verbal aggression, 8 measuring social undermining, and 4 measuring physical aggression. To provide additional subject matter expert (SME) judgments, 12 University of Minnesota graduate students sorted the

relevant items into facet categories. Data from these judgments ultimately led to two items being changed from social undermining items to verbal aggression items. These two items were, “I have talked behind someone’s back or spread rumors about someone with the intent to harm them,” and “I have yelled at or raised my voice at someone with the intent of harming them.” Seventy-five percent and 92% of raters, respectively, agreed that these were items measuring verbal aggression rather than social undermining. Furthermore, this exercise led to two items being changed from physical aggression to no-facet determination, because large percentages of the raters indicated these items did not fit into any of the three facets. These two items were, “I have avoided another person with the intent of harming them,” and “I have given unwanted sexual attention to someone with the intent of harming them.” While empirical data indicated these two items loaded onto the physical factor, the present researcher agreed with the SME categorizations that these two items did not measure physical aggression. Thus, the final IWAS consisted of 10 verbal aggression items, six social undermining items, two physical aggression items, and two items that did not cleanly measure any facet. All facet-level analyses were updated to reflect the final facet determinations. Across the 18 items categorized into facets, raters agreed, on average, 76%, for the facet categorization, thus supporting the item to facet mapping of the IWAS.

## Results

Upon final development of the aggression scales, the IWAS-A and IWAS-V displayed internal consistency reliabilities of $\alpha = .91$ and .93, respectively. Research Question 6 asked what the rate of occurrence was for aggression measured by the IWAS, and how this compared with the full item pool and across intent conditions. Table 12

presents the 20 IWAS items, along with mean rate of occurrence for each item with and without intent to harm included. Mean endorsement rates for the IWAS items with intent included all fell in the *Never* category, and ranged from 1.01 ("I have physically abused someone with intent to harm them") to 1.33 ("I have treated someone in a condescending manner with the intent of harming them"). The overall mean of the IWAS-A and IWAS-V scales was 1.18, falling between the response options of *Never* and *Once or Twice*. Standardized mean differences between aggression with and without intent to harm are also presented in Table 13. Similar to Study 2, aggression items were endorsed a moderate degree more frequently when intent to harm is included in items, across both the IWAS and the full aggression item pool. Cohen's *d*'s for the IWAS-A and IWAS-V were .68 and .50 when comparing across intent conditions. The full pool of aggression items displayed similar, yet slightly smaller *d*'s (.58 and .46, respectively) for the aggressor and victim perspectives. Overall, this finding indicates prior research failing to measure intent to harm *overestimates* the frequency of workplace aggression.

Research Question 7 asked about the factor structure of aggression as measured by the IWAS as compared with the factor structure findings of Study 2. In the IWAS-A and IWAS-V (with intent included), parallel analysis indicated that the recommended number of factors for both the victim and aggressor data was four. Figure 2 presents these two parallel analyses. Beyond four factors, the simulated random data had larger eigenvalues than the observed data, indicating that factors beyond four are largely random noise. Tables 14 and 15 present principal components analyses for 4-factor solutions for the IWAS-A and IWAS-V, respectively. These two tables also present results from the facet sorting task. The first component was the general factor for both

scales. Beyond the general factor, the three components that emerged were judged to be the same across the IWAS-A and IWAS-V: physical, verbal, and social undermining. For the IWAS-A, the general factor accounted for 60% of the variance, followed by 16%, 14%, and 10% for the physical, social undermining, and verbal components, respectively. For the IWAS-V, the general factor accounted for 69% of the variance, followed by 13%, 9, and 9% for the physical, verbal, and social undermining components, respectively. The highest loading items on each of the three components were as follows: “I have physically abused someone with the intent to harm them” (physical), “I have used derogatory name-calling towards someone with the intent of harming them” (verbal-aggressor perspective), and “I have delayed action on matters that were important to someone with the intent of harming them” (social undermining-aggressor perspective). Figure 3 presents mean occurrence rates for each of the three facets as well as overall aggression across both intent conditions.

Congruence coefficients for the loading patterns of the four-component solutions for the IWAS-A and IWAS-V are displayed in Table 16. The congruence coefficient between general factors (.96) indicates that the general factor is effectively equal across response perspectives. The physical factor coefficient (-.79) is slightly below the .85 threshold of ‘fair similarity’, whereas the verbal (.66) and social undermining (.57) coefficients are well below the ‘fair similarity’ threshold. However, these congruence coefficients were substantially larger than off-factor coefficients (e.g., victim-verbal and aggressor-social undermining), indicating there was a some degree of similarity across loading patterns, but not enough to be considered equivalent manifestations across

response perspectives. Facet-scale internal consistency reliabilities, as well as all other internal consistency reliabilities, are displayed in Table 17.

Turning to correlational results, Table 18 presents correlations of the IWAS from the two response perspectives and two intent to harm conditions with all external correlates, both uncorrected and corrected for unreliability. Similarly, Table 19 presents these correlations for the full, 50-item aggression pools. Table 20 presents intercorrelations for all variables, and the previously mentioned Table 17 presents the reliability values used in corrected correlations. The factor-level intent and no intent correlation matrices were also estimated using full information maximum-likelihood correlations, and both matrices differed from their pairwise-deletion counterparts by an average of $r = |.00.|$ Thus, missing data did not affect conclusions surrounding aggression's nomological network. It should be noted that all aggression item pools, including aggression with and without intent to harm, displayed right-skew.

Research Question 8 asked how the IWAS correlated with external variables, compared to the full aggression item pool and across intent conditions. The shortened IWAS-A and IWAS-V displayed correlations similar to the full aggression item pools on average (though with substantial variability), differing by an absolute value of $\rho = .01$ (*SD* = .08). Furthermore, the IWAS-A and the IWAS-V both correlated .98 with their 50-item counterparts. Thus, the task of scale refinement preserved the correlations with external variables, despite the fact that correlations were not a criterion in item selection for the IWAS. Because nomological networks were extremely similar between the full aggression item pool and the IWAS, remaining results focus on the IWAS scale's correlations.

While intent to harm matters for frequencies, Research Question 9 asked if inclusion of intent to harm altered aggression's nomological network. The IWAS-A displayed correlations that were, on average, $\rho = .18$ smaller than the same items with intent to harm excluded. Similarly, the IWAS-V correlations were, on average, $\rho = .19$ smaller than their no-intent counterparts. Although the magnitude of correlations with workplace aggression shrunk when the construct-valid intent measure was utilized, many of these intent correlations are still non-trivial. There was substantial variability in the degree to which inclusion of intent altered aggression's correlations. Conscientiousness and positive affect displayed smaller changes ($\Delta \rho \leq .11$), whereas agreeableness, negative affect, and trait anger all displayed changes in the .20's. For example, in raw correlation terms, when intent to harm is included in aggression, the correlation between aggression (aggressor) and trait anger decreases from $r$ =.54 to .34 ($\rho$ =.60 to .37). CWB was the outlier displaying the largest changes across intent conditions, which is discussed below in Research Question 11. Neither aggression with nor without intent more closely match meta-analytic estimates of workplace aggression's correlations (i.e., Table 11). Many observed correlations were similar in magnitude to meta-analytic estimates, but a consistent pattern did not emerge in which intent condition predicted similarity to meta-analytic estimates.

Setting aside the differences in intent versus no intent correlations and response perspective, the focus of remaining results is on the construct-valid aggression scales including intent to harm. Aggression displayed substantial correlations with many variables. Among the largest were variables involving negative emotions: trait anger correlated $\rho$'s =.38 and .37 with aggression (victim and aggressor, respectively), negative

affect correlated ρ's =.30 and .26 with aggression, and emotional stability correlated ρ's =-.22 and .23 with aggression. Personality correlations of agreeableness (ρ's =-.04 and -.14 for victim and aggressor) and conscientiousness (ρ's = -.07 and -.16) were weaker than the more affective constructs. In line with Study 2, the intercorrelation between the IWAS-A and the IWAS-V was $r$ = .69. Removal of a few outlier cases resulted in changes of no more than $r$ = |.03| in the correlation between experienced and enacted aggression.

Research Question Ten asked whether there was evidence for differential validity across aggression's three lower-level facets. Table 21 presents aggression's facet-level validities and Table 22 presents the facet intercorrelation matrix. In general, the only evidence for differential validity at the facet level was comparing physical aggression to verbal aggression and social undermining. For the IWAS-A, facet-level validities between verbal aggression and physical aggression differed by ρ = |.14|, and social undermining and physical aggression differed by ρ = |.11|. Social undermining and verbal aggression only differed by ρ = |.03|. Similarly, for the IWAS-V, verbal-physical aggression and social undermining-physical aggression differed by ρ = |.10| and |.08|, respectively where verbal-social undermining only differed by ρ = |.02|. Correlations were consistently weaker for physical aggression than the other two facets. This is intuitive, because the rate of endorsement as well as variability is higher for both verbal aggression and social undermining than for physical aggression. The lack of difference between verbal aggression and social undermining's correlates is likely due to the general factor and positive manifold exhibited between facets.

Research Question 11 asked whether the IWAS distinguished aggression from CWB. Results were particularly striking: IWAS-A and IWAS-V correlated ρ = .27 and .25, respectively with CWB. In contrast, using the same 20 items as IWAS-A and IWAS-V but with intent excluded correlated with CWB at ρ=.85 and .63, respectively. Correlations were re-run excluding univariate and bivariate outliers at varying levels of stringency and the same pattern of correlations emerged.[5] As existing aggression measures are predominantly without intent, this finding indicates that prior research on workplace aggression has improperly distinguished aggression from CWB. The IWAS represents an advancement in this respect, because IWAS-CWB relationships suggest that while there is some shared variance between the two constructs, they are largely independent.

Research Question 12 asked what the strongest predictors of enacted and experienced aggression were. Tables 23 and 24 display multiple regression and relative importance analyses for predicting enacted aggression (IWAS-A) and experienced aggression (IWAS-V), respectively. Model 1 findings were clear across response perspectives and intent conditions: aggression from the opposite perspective was the single best predictor of enacted and experienced aggression, with relative importance ranging from 36.9% to 77.9%. Full model $R^2$ values decreased substantially after removal of aggression as a predictor, though all Model 2 (i.e., the model without aggression as a

[5] To address social desirability similarly in Study 3 versus Study 4, aggression – CWB correlations are calculated excluding those who report no instances of CWB. Excluding participants with no CWB endorsements, the aggressor-CWB correlation was ρ = .25 with intent (*N* = 168) versus .66 without intent (*N* = 186), whereas the victim-CWB correlation was ρ = .21 with intent versus .48 without intent. Therefore, the aggression – CWB finding is preserved when excluding those who may have been responding in a socially desirable manner (based on CWB reporting).

predictor) *F*-statistics were significant at the .01 alpha level. For predicting enacted aggression, trait anger was the evident strongest predictor beyond experienced aggression. In Model 2, trait anger explained 44.8% and 47.6% of the variance in enacted aggression in the intent and no intent conditions. Individual difference variables of negative affect and agreeableness displayed smaller, but still non-trivial (10.3-16.4%) explanatory power for predicting enacted aggression across intent conditions. In terms of predicting experienced aggression, the situational variable of organizational justice was the best predictor in Model 2 across intent conditions (30.0%-33.8%). Negative affect and trait anger also displayed predictive power in Model 2 when predicting experienced aggression (14.1-26.7%). Finally, the biggest difference between the intent versus no intent conditions was the predictability of the criterion, particularly in Model 2. Model 2 $R^2$ values were more than double for both experienced and enacted aggression when shifting from intent to no intent conditions. This finding is in line with the findings of lower base-rate and weaker correlations with aggression when intent to harm is not included in aggression.

## Discussion

Study 3 began by developing a construct-valid measure of workplace aggression called the Intentional Workplace Aggression Scale (IWAS). A 20-item scale was found to be sufficiently long to achieve desired levels of reliability and construct-coverage, yet short enough for practical use. Using this scale, Study 3 replicated Study 2, finding that workplace aggression scales that do not include intent to harm substantially over-estimate the frequency of aggression in work contexts.

Prior research has found CWB is characterized by an underlying general factor (Berry, Ones, & Sackett, 2007; Gruys & Sackett, 2003). In conjunction with Study 2, Study 3 also indicated that aggression displays a strong general factor. As such, if one engages in one aggressive behavior, it is quite likely that they will engage in other aggressive behaviors. Similarly, if one is the victim of an aggressive behavior, they are likely to be the victim of other aggressive behaviors. There were three aggression facets that emerged beyond the general factor in both the aggressor and victim item pools: physical aggression, verbal aggression, and social undermining. These facets displayed some, though not overwhelming, similarity across the two response perspectives. There was minimal evidence found that measuring aggression at the facet-level yielded substantive differences in predictive validity. This finding indicates that measurement of overall aggression is likely to be appropriate in most cases. Rather, facet-level measurement of aggression could prove useful at a more micro-level when examining specific aggressive behaviors or causal processes, or designing specific interventions.

The present study also demonstrated how workplace aggression can be measured using a refined scale, the IWAS, with minimal loss in reliability and a virtually unchanged nomological network. It is believed that the minimal loss in scale reduction is due to the underlying general factor of aggression. When examining the IWAS across intent conditions, a similar result as the occurrence rate result is found when looking at the external correlates of aggression: the strength of correlations with aggression are also overestimated when intent to harm is not included in aggression. Regression analyses indicated that explanatory power of overall models increased substantially when aggression was measured without intent. As Study 1 demonstrated that prior workplace

aggression scales do not sufficiently contain intent to harm, it is now concluded that prior aggression research contains inflated estimates of aggression's occurrence rate as well as inflated estimates of correlations with other variables. Aggression is a more predictable variable when measured without intent. The inflated occurrence rate and correlations are likely related. Specifically, when intent is included in aggression items this reduces aggression's occurrence rate, which reduces variance in responses to aggression, thereby reducing covariance of aggression with other variables.

Put simply, does it matter if we over-estimate workplace aggression's external correlations? Do these inflated statistics matter from an employee screening perspective? Answers to these questions depend on goals of the academic or HR practitioner. When intent to harm is not included in aggression items, aggression is not distinguished from CWB clearly. This is demonstrated conceptually by operational definitions of both constructs discussed in the Introduction, as well as empirically by the correlation between aggression and CWB decreasing when intent is included in aggression items. Aggression – CWB correlations corrected for unreliability were very strong (approaching collinearity from the aggressor-perspective) when intent was excluded from aggression, whereas aggression – CWB correlations were weak when using aggression with intent. Thus, if an HR practitioner is concerned with screening out applicants that may engage in a wide variety of behaviors contrary to the organization's goals, then a broad CWB measure should certainly be used to validate selection instruments. However, in cases where an academic intends to study aggression specifically or in an applied setting where aggression may be present and addressed with an HR intervention, it is essential that workplace aggression is measured rather than broad CWB.

This study also examined relative strength of individual predictors and relative strength of individual difference versus situational predictors. The individual difference variables of trait anger and negative affect displayed non-trivial prediction of both perspectives of aggression, holding other variables constant. Yet in terms of predictors beyond reciprocal aggression (i.e., opposite response perspective), trait anger was the clear best predictor of enacted aggression, whereas organizational justice was the best predictor of experienced aggression. This finding conceptually replicates Glomb's (2010) finding that situational variables display greater prediction of experienced aggression and individual difference variables display greater prediction of enacted aggression. This finding certainly makes intuitive sense; engaging in aggression is an intentional behavior that may be related to one's dispositions, whereas experienced aggression may be more a factor of specific situations. It should be noted that these data are not causal: it could be the case that individuals report lower levels of organizational justice because they have been the victim of aggression. Interestingly, the demographic variables of sex and age did not predict enacted or experienced aggression beyond individual difference and situational variables. Overall, simply looking at zero-order correlations would have overestimated the importance of emotional stability and underestimated the importance of trait anger, highlighting the usefulness of relative importance analysis.

Finally, this study found a similar magnitude relationship between experienced and enacted aggression as in Study 2. Regression analyses indicated that experienced aggression was the single best predictor of enacted aggression, and enacted aggression was the single best predictor of experienced aggression. This result replicated Glomb's (2002; 2010) findings on the reciprocal nature of workplace aggression. However, the

finding from the present regression analyses has potential to conflate between-individual and between-organizational samples, if there are large differences across organizations in aggressive occurrences and aggressive culture. Nonetheless, fundamentally, study of workplace aggression that unilaterally takes a victim perspective (i.e., victimization; Aquino & Thau, 2009) or aggressor perspective ignores the strong evidence that experienced and enacted aggression are inherently intertwined. Future research should place a greater emphasis on studying the two response perspectives in conjunction with one another.

*Limitations*

All aggression measures displayed relatively skewed distributions, although aggression with intent showed greater right-skew than aggression without intent, thus affecting correlations presented in this study. Fundamentally, workplace aggression is a low-base rate construct. It may be the case that workplace aggression is an inherently skewed construct, particularly when assessing behaviors higher in severity that incorporate intent to harm others. The majority of individuals simply may not have these experiences at work.

As this sample also uses online participants via MTurk, attentive responding is of concern. However, there were four different levels of stringency of screening out careless respondents that were tested to assess robustness of results to low-quality respondents from MTurk. The same pattern of results was found across mean differences, nomological network, and the aggression-CWB finding for each of the four participant screens.

*Conclusion*

As shown in this study, the inclusion of intent to harm in aggression scales has non-trivial implications for the frequency of aggression's occurrence as well as the magnitude of correlations with other variables. When intent to harm is not included in aggression items, aggression is not clearly distinguished from CWB. This is perhaps unsurprising, given the similarity in item content when intent to harm is not included in aggression, as well as the fact that some studies purporting to measure aggression use CWB scales (Jex & Bayne, 2017). This provides strong support for the notion that if one defines aggression with intent to harm, its measurement should explicitly include intent. To address this, the present study developed the IWAS-A and IWAS-V, which represent systematically-developed, psychometrically sound, and construct-valid measures that can prove foundational to future aggression research.

## Study 4

The focus of the fourth and final study is cross-validation of IWAS analyses conducted in Study 3. Cross-validation is important for any primary data to address concerns of replicability. Furthermore, psychological science is currently in a self-prescribed “replication crisis”, with many prominent phenomena failing to be detected in replication studies (Open Science Collaboration, 2015). Cross-validation is of particular concern in this set of studies because all data was collected via Amazon MTurk, which has recently observed a decrease in data-quality. In 2018, researchers reported finding much higher rates of low-quality responders (Kennedy et al., 2018; Stokel-Walker, 2018). This spike was traced back to international responders using Virtual Private Networks (VPN) or proxies to mask locations and allow for participation in surveys designed for US responders. By virtue of tracking international responders who forgot to turn on their VPN prior to taking surveys, the largest proportions of these international responders were found to be from Venezuela and India. Specific issues with these responders included random responding, nonsensical responses to open-ended questions, and suspicious responses to demographics. In an investigation of data quality using 2,010 MTurk responders, there was little evidence found that bots were responding to surveys in any substantial number, but rather that VPN responders present the largest threat to data quality on MTurk. (Kennedy et al., 2018)

Data for Study 1, 2, and 3 was collected during the summers of 2015, 2016, and 2017, respectively. Careless responding checks were slightly different for each study based on the structure of each dataset. However, flagged careless responders represented 8% (12/150) of Study 1 data, 6% (24/400) of Study 2 data, and 15% (75/500) of Study 3

data. Thus, the 2017 data contains approximately twice the proportion of careless responders as the previous two studies, approximately tracking the 2018 reports of increased international responders.

This study collects data from a firefighter sample on the same scales as Study 3: IWAS-A, IWAS-V, and all external correlates previously examined. This study also represents an international replication because the firefighter sample is located in South Korea. The same set of analyses on rate of occurrence, factor structure, external correlates, and multiple regression/relative importance are conducted on the firefighter data to evaluate cross-validation.

*Research Question 13*: Are the same patterns of rate of occurrence, factor structure, external correlates, multiple regression, and intent-no intent differences found in a Korean firefighter sample as compared to the MTurk sample in Study 3?

## Method

### Participants and Procedure

This study had 246 participants. Demographics for this sample are not currently available. All item translation and data collection was conducted by a graduate student colleague of the present researcher. The South Korean fire department was selected due to prior work connections of this graduate student colleague. Participants were recruited via emails and participation was voluntary. The same Qualtrics survey structure was used, only with all items translated into Korean. As such, aggression response perspective was again counterbalanced, with one half of participants randomly selected to receive victim-perspective items first, and the other half receiving aggressor items first. Within the victim and aggressor perspectives, items were randomized.

The same insufficient effort responding flags were conducted on this data except for attention checks, and included the long-string index, psychometric synonyms, Mahalanobis distance, and manual inspection of response patterns. Thirteen participants were removed due to insufficient effort responding: two due to implausible response patterns on aggression scales, three from the long-string index, seven from low correlations on psychometric synonyms, and one flagged on multiple careless responding indices. This left $N$ = 118 participants in the intent condition and $N$ = 115 participants in the no intent condition.

**Measures**

Measures included the IWAS-A and IWAS-V, Big Five factors of conscientiousness, agreeableness, and emotional stability (DeYoung, Quality, & Peterson, 2007), trait anger (Spielberger & Sydeman, 1994), negative and positive affectivity (Watson & Clark, 1994), organizational justice perceptions (Niehoff & Moorman, 1993), job satisfaction (Gillespie et al., 2016), and counterproductive work behavior (Spector et al., 2016). Refer to Study 3 for detailed descriptions of each scale.

If there was an established Korean version of an existing scale cited above it was used; otherwise, the scale was translated into Korean. Translations were conducted by the graduate student colleague, whose first language is Korean, in addition to multiple Korean-speaking research assistants. All items were translated and then back-translated by another researcher.

**Analyses**

Analyses conducted are mostly identical to Study 3. Analyses began with rate of occurrence, followed by: correlational analyses conducted with pairwise deletion, and

multiple regression and relative importance analyses. Refer to Study 3 for a detailed description of all analytic procedures. It is noted that attention check items were not included and response time data was not available, thus permitting careless responding screening on these metrics in this study. Demographic data was not available for inclusion in regression and relative importance analyses.

The one major difference in analyses was the lack of testing the IWAS' factor structure in this study. As a more exploratory approach had been taken on aggression items in Study 2 and the IWAS in Study 3, the goal was to use a confirmatory approach in this study. Specifically, a confirmatory factor analysis testing the bifactor model for the IWAS-A and IWAS-V. The proposed model is presented in Study 4. However, the sample size fell well below recommended guidelines. In terms of absolute sample size, anywhere from a minimum of 100 to 200 cases are recommended (Anderson & Gerbing, 1984; Jackson, 2001), whereas others recommend a ratio of either 5:1 or 10:1 of cases to freely estimated parameters (Tanaka, 1987; Bentler & Chou, 1987). The intent condition *N* available with complete cases was 105. There would have been 57 parameters estimated, putting the sample *N* below most recommendations using absolute sample size and below all recommendations using the ratio of cases to free parameters. Additionally, initial attempts to run this analysis were met with estimation errors due to negative estimated variances and non-positive definite matrices. As such, confirmatory factor analyses are not presented in this study.

## Results

Comparable to Study 3, the final IWAS-A and IWAS-V scales from the intent condition displayed high internal consistency reliabilities of $\alpha = .92$ and .91, respectively.

Study 3 began by addressing the rate of occurrence of aggression across intent conditions and response perspectives for the IWAS. Table 25 presents the items found in the IWAS with mean occurrence rates for each item across intent conditions. A similar pattern of endorsement rates emerged across the MTurk and Korean data. For example, “I have given someone the silent treatment” and “I have interrupted another person when they were speaking or working” were among the most highly endorsed items across both datasets, whereas “I have used threats of physical abuse” and “I have given unwanted sexual attention to someone” were among the least endorsed. However, scale-level rates of endorsement on the IWAS do differ across the MTurk and Korean datasets. Comparing overall mean rates of endorsement of MTurk versus Korean data, *d*’s are .64, .38, .25, and -.07 for the intent-aggressor, no intent-aggressor, intent-victim, and no intent-victim conditions. Thus, overall the Korean dataset had higher reported instances of workplace aggression, while differences were largest from the aggressor perspective.

Table 26 presents descriptive statistics and standardized mean differences for the IWAS-Korean version across intent conditions and response perspectives. The fundamental finding that measuring aggression without intent shows higher endorsement rates is maintained: *d*-values of .35 and .19 were observed across the intent-no intent conditions for the IWAS-A and IWAS-V, respectively. This finding is smaller than the *d*-values observed in Study 3 for the IWAS-A and IWAS-V: .68 and .50. However, the intent condition mean differences are quite similar to what was observed in Study 2 across the full aggression item pool. Most importantly, the fundamental finding is preserved: aggression items that do not contain intent to harm overestimate the frequency of workplace aggression behaviors.

Figure 5 presents IWAS overall and facet scale means across all four conditions. While the verbal aggression and social undermining facets show a similar endorsement rate, they were both endorsed at a higher rate than physical aggression. Facet-scale internal consistency reliabilities in addition to all other scale reliability estimates are presented in Table 27.

Shifting to nomological network findings, Table 28 presents IWAS correlations across the four conditions, Table 29 presents the intercorrelation matrix for all variables, and Table 27 presents the reliability values used in correlation corrections. Similar to Study 3, the factor-level intent and no intent correlation matrices were estimated using full information maximum likelihood estimation procedures, producing matrices that differed from their corresponding pairwise deletion matrices both by $r = |.01|$. Factor-level matrices were used because including factor and facet-level scale scores introduces collinearity that causes estimation problems for FIML procedures. Based on these average differences, missing data did not affect substantive conclusions surrounding the IWAS' nomological network. Similar to Study 3, all IWAS factor and facet distributions display right-skew.

Study 3 showed that IWAS' external correlations were on average, $\rho = .18$ - $.19$ smaller when intent was included than when intent was excluded. Korean data showed a more ambiguous pattern: for the IWAS-A, correlations were $\rho = .01$ different with intent included than excluded, and for the IWAS-V correlations were $\rho = .06$ smaller. Including factor-level scales only, this difference changed to .02 and .09 for the IWAS-A and IWAS-V, respectively. Mean differences across intent conditions were also smaller in the Korean data as compared with the MTurk data; however, correlational findings across

intent conditions for the IWAS-A are largely inconsistent. On the other hand, results for the IWAS-V do suggest that correlations are slightly overestimated when failing to measure aggression with intent.

One of the primary findings of Study 3 was that measuring aggression with intent distinguishes aggression from CWB to a much greater extent as compared to aggression without intent. In the Korean data, the IWAS-A - CWB correlation was $\rho = .38$ versus .34 for aggression with and without intent. The IWAS-V – CWB correlation was $\rho = .24$ versus .26 for aggression with and without intent to harm. As such, initial analyses suggest the Korean data does not show substantive difference in aggression versus CWB based on inclusion of intent to harm.

Regarding the CWB finding, social desirability bias is of particular concern for this sample. Even though participants were ensured anonymity, they were all recruited from the same organization and may have been concerned about reporting undesirable behaviors. Across both intent conditions, 71 participants (out of 233) reported no instances of CWB, 80 participants reported no instances of experienced or enacted aggression, and 109 participants reported no instances of either experienced/enacted aggression or CWB. As CWB includes less severe behaviors such as, “Taken a longer break than you were allowed to take” and “Left work earlier than you were allowed to do,” it is judged that no instances of CWB is more plausible than no instances of aggression. Excluding participants with no CWB endorsements, the aggressor-CWB correlation was $\rho = .27$ with intent ($N = 69$) versus .33 without intent ($N = 59$), whereas the victim-CWB correlation was $\rho = .13$ with intent versus .19 without intent. Thus, excluding individuals who may have engaged in socially desirable reporting of

undesirable behaviors placed intent differences for the aggression-CWB relationship in the expected direction, though differences are substantially smaller than Study 3. The Korean data has a much smaller sample size after making these exclusions, and there were also multiple outliers on the CWB scale, precluding strong conclusions about replication of Study 3's aggression – CWB finding.[6]

Turning to results focusing only on the construct-valid intent scales, the relationship between the IWAS-A and IWAS-V was $r$ = .69. Excluding those with no endorsement of aggression reduced the magnitude to $r$ = .64. The strongest factor-level correlations of aggression were also similar between Study 3 and Study 4: trait anger, negative affect, and emotional stability. Correlations with the IWAS-A and IWAS-V respectively were as follows: trait anger- $\rho$ = .44 and .32, negative affect- $\rho$ = .43 and .38, and emotional stability- $\rho$ = -.38 and -.28. These correlations were slightly larger than the same correlations observed in Study 3, nonetheless the pattern of results is retained. Aggression produced weaker relationships with non-affective personality constructs of agreeableness ($\rho$ = -.14 and -.01 with IWAS-A and IWAS-V) and conscientiousness ($\rho$ = -.25 and -.12 with IWAS-A and IWAS-V). Similarly, aggression produced weaker relationships with the situational variables of job satisfaction ($\rho$ = -.18

[6] Further excluding the CWB outliers (two in the no intent condition, one in the intent condition) produced intent - no intent differences for the aggression-CWB correlation of $\rho$ = .24 ($N$ = 68) versus $\rho$ = .40 ($N$ = 57) from the aggressor perspective and $\rho$ = .16 ($N$ = 68) versus $\rho$ = .23 ($N$ = 57) from the victim perspective. Excluding individuals that gave no endorsements of any aggression items, intent – no intent differences were $\rho$ = .14 ($N$ = 61) versus $\rho$ = .40 ($N$ = 69) for the aggressor perspective and $\rho$ = .26 ($N$ = 61) versus $\rho$ = .49 ($N$ = 69) from the victim perspective. Thus, such decision rules magnified the aggression-CWB distinction based on intent condition. However, strong conclusions are unwarranted because: a) screening on outliers alone is often not supported by testing professionals (SIOP Principles, 2018), and b) screening on the basis of no-aggression endorsements is more tenuous than no-CWB endorsements because aggression is a lower base rate event than CWB.

and -.22 with IWAS-A and IWAS-V) and organizational justice perceptions ($\rho$ = -.09 and -.07 with IWAS-A and IWAS-V).

Tables 30 and 31 present results from the multiple regression and relative importance analyses. Results primarily replicated those observed in Study 3. Across all intent conditions and response perspectives, the opposite perspective of aggression was the best predictor with relative importance ranging from 34.9% to 74.7%. Removing aggression as a predictor resulted in trait anger and negative affect being the strongest predictors of both experienced and enacted aggression. Trait anger was the strongest predictor with explanatory power ranging from 21.8% to 47.7%, whereas negative affect ranged from 16.7% to 39.4%. Replicating findings across intent conditions, Model 2 $R^2$ values increased substantially when shifting from predicting aggression with intent to aggression without intent. Although intent differences in correlation magnitudes were more ambiguous, multiple *R*'s support Study 3's finding that aggression without intent is more predictable than aggression with intent. In contrast to Study 3, organizational justice perceptions were not a strong predictor of experienced aggression.

Study 3's final line of analyses focused on whether measuring aggression at the facet-level yielded evidence of differential validity, such that facet-level measurement might yield predictive advantages. Table 32 presents facet-level validities and Table 33 presents facet intercorrelations. Study 3 did not find compelling evidence for substantial correlational differences across the three aggression facets. Conversely, Study 4 does show evidence of different correlational patterns for facets. Specifically, social undermining showed somewhat stronger correlations with external variables than verbal aggression, and physical aggression stronger than verbal aggression. These differences

were particularly evident from the aggressor perspective. The mean aggressor-perspective correlation of verbal aggression was ρ = .20 (*SD* = .13), social undermining was ρ = .27 (*SD* = .15), and physical aggression was ρ = .17 (*SD* = .13). From the victim-perspective, the mean correlation for verbal aggression was ρ = .15 (*SD* = .10), social undermining was ρ = .19 (*SD* = .12), and physical aggression was ρ = .17 (*SD* = .11). Overall, a clear pattern of differential validity did not emerge across the facets in Study 4.

## Discussion

On the whole, Study 4 supported the development of the IWAS and the pattern of findings in Study 3 were generally, though not uniformly, replicated. First, the rates of endorsement across aggression items was very similar across the MTurk and Korean data. Second, the fundamental finding that aggression measurement failing to include intent shows mean differences from aggression including intent was replicated, though to a smaller degree than in Study 3. As such, both datasets converge to suggest that prior research on aggression has overestimated aggression's base rate. Third, both datasets showed that the IWAS displayed a high-level of factor and facet-level reliability. This indicates that the length of the scale is appropriate. Fourth, both Study 3 and Study 4 showed that the IWAS-A and IWAS-V displayed a strong degree of covariation (ρ's in the .60's), and relative importance analyses also support the strength of this relationship. In contrast to Study 3, this sample consisted of a single organization and industry, thus removing the potential for conflation of between-organization and between-individual effects for reciprocal regression. This finding supports the notion that victims of aggression also tend to engage in aggression (and vice versa), supporting Glomb's (2002; 2010) findings on reciprocal aggression. Fifth, the rank-ordering in magnitude of the

IWAS's external correlates was replicated by Study 4. Specifically, the IWAS displays the strongest factor-level correlations with more affective constructs (trait anger, negative affect) and weaker correlations with less affective personality constructs and situational variables. Sixth, the multiple regression findings regarding the predictive power of trait anger and negative affect, as well as the predictability of aggression across intent conditions, were replicated.

In Study 4, findings regarding aggression's nomological network across intent conditions were more ambiguous. Whereas Study 3 found that failing to measure intent inflates aggression's correlations, Study 4 found this to a smaller degree, and only from the victim perspective. The implication of this finding is that conclusions surrounding overestimation of aggression's correlates in previous research is more tenuous than found in Study 3. However, multiple *R*'s from regression analyses (removing opposite perspective aggression) did indicate that aggression was much more predictable, on the whole, when removing intent to harm from aggression's measurement. Full-dataset analyses in Study 4 provided evidence that the aggression-CWB relationship was similar across intent conditions. Yet, more focused analyses showed that intentional aggression was somewhat more distinguished from CWB than non-intentional aggression after excluding participants that may have been hesitant to report wrong-doing and those that were outliers. Taken together between Study 3 and 4, data do provide evidence that the IWAS better distinguishes aggression from its relative (CWB) than past aggression scales. Similarly ambiguous were the factor structure results. Confirmatory factor analysis was impractical given the sample size. Future research would prove fruitful in

tests of the IWAS's factor structure, specifically with a larger sample than was available in this study.

In contrast, there were three findings that showed fundamentally different patterns across the two datasets. First, the Korean firefighter data showed higher mean rates of endorsement of all forms of aggression than the MTurk sample. This finding does not represent a threat to the IWAS or the validity of Study 3's findings, but rather is likely to represent a true difference across the two samples. It may be the case that aggression is a higher base-rate event in certain industries than in others. It may also be the case that long shifts at the fire department and interdependent tasks provide greater opportunity to engage in and experience aggression than in other industries. Second, when predicting experienced aggression, Study 3 showed that the situational variable of organizational justice played an important role whereas this variable did not in Study 4. It is unlikely that socially desirable reporting of organizational justice in Study 4 played a role because justice means were higher in Study 3 than Study 4 ($d$ = .64). It could be the case that justice and fairness function differently in Eastern versus Western cultures, as they tend to place different levels of value on individualism versus collectivism. In fact, in a meta-analysis, Li and Cropanzano (2009) found that effects of organizational justice on outcome variables (affective commitment, satisfaction, trust, and turnover intentions) function more strongly in North America than in East Asia. Third, the IWAS administered in the Korean firefighter sample showed no clear pattern for differential validity between the facets, whereas the MTurk sample showed physical aggression to have weaker correlations than verbal aggression and social undermining. This finding also does not represent a threat, but rather an interesting opportunity for further

investigation. The question of, “At what level of the hierarchy should we measure a given construct” is an ongoing question in psychological measurement that often does not have a clear-cut answer. The trade-offs in prediction at different levels of measurement is referred to as the bandwidth fidelity dilemma (Viswesvaran & Ones, 1996). Depending on the intended purpose of the aggression scale and the desired level of prediction (broad versus narrow constructs) will influence the optimal measurement level with the IWAS. Furthermore, the relatively brief 20-item scale allows for measurement at multiple levels in many practical contexts.

There are multiple reasons this dataset differs from the MTurk dataset, all of which hold potential to explain the differences in results across Studies 3 and 4. First and foremost, Study 4 data was collected in South Korea, whereas Studies 1-3 data were collected in the United States. This has potential to substantively change relationships of interest; for example, the latent structure of personality has shown an additional, sixth factor in Eastern cultures (Ashton, Lee, & Son, 2000). As stated above, there is meta-analytic evidence that one predictor measured (organizational justice) functions differently in Asia than in North America. As another example, the concept of intent is central to this research, and intent may not have the exact same meaning across Eastern versus Western cultures. Second, Study 4 data is comprised of all firefighters whereas Study 3 data represents a broad sampling of industries. While there were many job roles within this fire department, the industry is the same and it is likely that there is a level of shared culture of employees across job roles in this department. Third, Study 3 collected no identifying information, whereas Study 4 participants were identified via records and emailed to take the survey. While no identifying information was collected and

participants were ensured anonymity in Study 4, it still may be the case that participants were concerned with reporting undesirable behaviors at work. This is evidenced by the high percentage (31%) of participants that reported zero endorsement of any of the 32 counterproductive work behaviors. Finally, the IWAS from Study 4 was a translated scale. Without further verification efforts, it remains unclear whether there were any major translational issues of this scale. Considering these three differences, failure to replicate certain findings may be because: A) these differences in samples actually changed relationships of interest or psychometric properties in their respective populations, B) the findings truly were not replicable, or C) sampling error or potential scale translational issues prevented detection of a replicable effect. However, it is again noted that the majority of findings were replicated between Study 3 and Study 4.

It should be noted that this data collection was opportunistic: the researcher's colleague was already planning a Korean firefighter data collection for other research purposes. As such, at the outset the present researcher was well-aware that a failure to replicate would yield ambiguous interpretation due to the substantive differences across the two samples. However, it is the present researcher's view that even considering this interpretational limitation, a replication study with substantive differences in samples is better than no replication at all.

## General Discussion

The present series of studies has represented a systematic effort to develop a construct-valid scale of workplace aggression and its facets. These studies have also investigated the role of intent to harm and response perspective within workplace aggression, as well as aggression's nomological network and factor structure. Study 1

illustrated that workplace aggression is not sufficiently measured in correspondence with its definition that includes intent to harm. Study 2 observed that the base rate of aggression is over-estimated when failing to measure workplace aggression with intent to harm. Study 2 also found that aggression contains a strong general factor that remains relatively unchanged whether intent to harm is included or not, whereas intent to harm changes the lower-order factor structure of aggression. Study 3 replicated the finding of over-estimation of aggression as it is currently measured and proceeded to evaluate the nomological network of aggression. It was found that aggression's external correlates were also overestimated when failing to measure intent to harm. Using data from Study 2 and Study 3, a new workplace aggression scale called the Intentional Workplace Aggression Scale (IWAS) was devised. This scale displays better content sampling within the aggression domain. Study 3 also observed that the IWAS displayed sound reliability and measured three lower-order facets of verbal aggression, physical aggression, and social undermining. Study 4 was a cross-cultural replication study of the IWAS. This study replicated the fundamental finding of overestimation of aggression's base rate, in addition to the general pattern of IWAS correlates, and the strength of the general factor. Study 4's results were more ambiguous with respect to intent to harm affecting aggression's nomological network (and specifically the aggression – CWB relationship), though there was some support for this finding.

Beyond these specific findings, the present research has made a number of greater contributions to the literature. The following subsections proceed to outline the major contributions of this research.

**Importance of Intent to Harm: Definitional Correspondence**

In essence, the largest theme of this dissertation is correspondence between a construct definition and its measures. Literature reviews in organizational psychology have noted that it is not uncommon for measures to fail to adequately sample the content domain from the relevant construct (Aguinis & Edwards, 2014; Aguinis & Vandenberg, 2014; Stone-Romero, 1994). Colquitt and colleagues (2019) argue that this issue is centered around lack of attention to content validation during scale development. The authors state that, "it is difficult to imagine a new scale being introduced without some discussion of reliability and factor structure. It is easy to imagine an article failing to include discussion of content validation" (Colquitt, Sabey, Rodell, & Hill, 2019, p. 1). The researchers utilize content validation approaches to conceptualize definitional correspondence, which is the extent to which items from a scale correspond to that construct's definition. Similarly, they define definitional distinctiveness as the extent to which a scale's items correspond more to that construct's definition than to other related constructs (Colquitt et al., 2019). The researchers go on to propose a content validation procedure in which raters would assess each individual item's measurement of the construct of interest.

The present research was complete at the time Colquitt et al. was published. Nonetheless, this workplace aggression research distinctly highlights the ideas put forth in the Colquitt et al. paper. A shortcoming was observed between workplace aggression's definition and its measurement, which was followed by a systematic program of research to develop a scale with sufficient construct – measure correspondence. The two are even similar in process – raters in this study evaluated the extent to which items assessed a definitional feature of aggression (i.e., definitional correspondence). It also assessed

definitional and measurement differences between workplace aggression and counterproductive work behavior (i.e., definitional distinctiveness). Thus, this work highlights the importance of Colquitt and colleagues call for emphasis on content validation and specific attention to definitional correspondence and distinctiveness in psychological measurement.

Furthermore, this research has illustrated the consequences of changes in psychometric properties of a construct when definitional correspondence is not met (i.e., the no intent to harm conditions in Studies 2 - 4) versus when definitional correspondence is met (i.e., the intent to harm conditions). Specifically, intent to harm altered workplace aggression's base rate, lower-order factor structure, and nomological network for the English version of the IWAS and the multiple regressions of the Korean IWAS.

**Response Perspective**

Workplace aggression research has often suffered from unilateral focus on either the victim perspective (i.e., victimization) or the aggressor's perspective. A consequence of this is lack of attention to the relationship between being the aggressor and the victim of aggression and how this relationship may be interrelated. However, Glomb (2002) found evidence to support a reciprocal relationship between experienced and enacted aggression. Using interviews on specific aggressive incidents, both the victim and aggressor parties often reported ending up angry regardless of which party enacted the aggression first. In support of this finding, Studies 2, 3, and 4 found strong relationships between the victim and aggressor perspectives from the same respondents. Beyond zero-order correlations, Studies 3 and 4 found in a regression framework that reciprocal aggression (i.e., the opposite response perspective) was the single best predictor of

workplace aggression relative to all other demographic, situational, and individual difference variables. It should be noted that this finding does not indicate that within a single aggressive instance, both the victim and aggressor perspectives are related. However, it does indicate that on average, those who report higher levels of enacted aggression also report higher levels of experienced aggression (and vice versa). In the long run, engaging in aggression may make individuals more likely to also experience aggression. Likewise, being the recipient of aggression may make individuals more likely to engage in future acts of aggression.

In general, aggression's nomological network and factor structure were similar across response perspectives. Within both the victim and aggressor perspectives, the highest correlates of aggression were the affective constructs of trait anger and negative affect. Similarly, the situational variables of job satisfaction and organizational justice perceptions correlated more weakly with aggression across both response perspectives. Importantly, the IWAS was developed to include a victim scale (IWAS-V) and aggressor scale (IWAS-A) in order to support the study of aggression from both response perspectives. Ideally, this will facilitate greater understanding of the reciprocal relationship between being a victim of aggression and engaging in aggression.

**Predictability of Aggression**

The present research went beyond zero-order correlations to evaluate the predictability of aggression, holding variables constant. It also evaluated relative strength of individual predictors as well as the more general question of strength of situational versus individual difference predictors. To accomplish these relative strength comparisons, relative importance analysis was conducted, circumventing interpretational

issues of examining beta weights (Johnson & LeBreton, 2004) and instability issues with hierarchical regression. Beyond reciprocal aggression, trait anger consistently emerged as a moderate to strong predictor of both enacted and experienced aggression. Negative affect, though slightly weaker, also showed substantial prediction of experienced and enacted aggression. From a theoretical framework, individuals high in trait anger are likely to be provoked into aggression because they perceive a greater variety of situations frustrating than those who are low in trait anger (Douglas & Martinko, 2001). Similarly, those high in negative affect are more reactive to negative events than those lower in negative affect (Douglas & Martinko, 2001). For individuals high in trait anger or negative affect, perceiving more situations as negative or frustrating may create a compounding anger or frustration, thus lowering the 'threshold' at which one engages in aggressive acts. Meta-analytically, Hershcovis and colleagues (2007) find the trait anger – aggression relationship moderate and the negative affect – aggression relationship small to moderate, roughly mimicking what was observed in this study.

Study 3 found that organizational justice was the best non-aggression predictor of experienced aggression, whereas Study 4 found trait anger and negative affect to be the best predictors. Study 3's results supported Glomb's (2010) finding that situational variables were more important for predicting experienced aggression whereas dispositional variables were more important for predicting enacted aggression. While Study 4 did not replicate Glomb's situational variable finding, there is evidence that the strongest situational predictor included functions differently in Eastern versus Western cultures (Li & Cropanzano, 2009). Thus, in answer to the question of whether individual

difference or situational predictors are more important for predicting aggression: *it depends on the type of aggression and may depend on cultural context*.

Across all contexts and both types of aggression, this study showed the predictive power of reciprocal aggression. However, if one wishes to screen on enacted aggression, using victim aggression is questionable from a moral standpoint. Yet predicting enacted aggression from a battery of individual difference and situational variables still displayed encouraging results (multiple *R*'s .33 - .49). It was shown clearly across four samples in two different cultures that trait anger and negative affect played important roles in predicting aggression. Questions of fakeability present issue for self-report scales of these two constructs used in the present study. However, use of biodata or less transparent scales may allow for assessment of these constructs for use in selection.

**Factor Structure and Bandwidth Fidelity**

Study 2 found that there were three facets of aggression that were constant across response perspectives and intent to harm conditions: verbal aggression, physical aggression, and social undermining. Study 3 found support for these facets, in addition to the general factor of aggression, and subsequently devised the IWAS to measure each of the three facets. Study 4 was unable to reach conclusions about the factor structure of the IWAS due to small sample size and model estimation issues. Tests of the IWAS's factor structure are an important avenue for future research. Yet, Studies 2 and 3 both indicated that the three facets measured by the IWAS are the appropriate facets to measure. Additionally, the SME rating exercise supported the item – facet categorizations and based on extensive evaluation from the present researcher, the content domain of the facets is judged to be sufficiently sampled by the IWAS items.

Study 3 found that physical aggression displayed weaker correlations than verbal aggression and social undermining. On the contrary, Study 4 did not find any clear pattern of differential validity between the three facets. Yet, all studies found that aggression displayed a relatively strong general factor. This means if an individual engages in one form of aggression, they are likely to engage in another form of aggression. Supporting this notion, the mean intercorrelation between facets was $r = .49$ in Study 4, suggesting that there is a good deal of (though not complete) shared variance between aggression's facets. Thus, in most cases broad measurement of aggression at the factor level is likely to be most appropriate. However, in instances where very narrow behaviors are of interest, facet-level measurement may be appropriate.

**Data Limitations**

One limitation of the data mentioned throughout Studies 1 – 3 was the recent concern with data quality on MTurk, specifically with bots responding to survey and non-U.S. responders using proxies to bypass the U.S. restriction (Cheung, Burns, Sinclair, & Sliter, 2017; Kennedy, Clifford, Burleigh, Jewell, & Waggoner, 2018). To address this, all studies using MTurk data used extensive careless responding screening procedures, in addition to manual screening of data, use of attention check items, and inspection of response times. All analyses were conducted using a primary sample that was screened on careless responding, but was also tested at different levels of stringency for data screens. Levels of stringency for careless responding screening did not affect substantive conclusions in any of these three studies. Similarly, there were some concerns for Study 4 data in terms of: A) a few large outliers on the CWB scale that bypassed careless responding screenings, and B) lack of attention check and response time data in order to

conduct more thorough careless response screenings. In addition, due to cultural differences and scale translation, there are multiple ways to interpret differences in findings across Study 3 and Study 4.

Another limitation is that all data collected in the present study are cross-sectional in nature. While the present data can speak to relationships of workplace aggression with other variables, this data cannot definitively answer the question of which predictors will best predict aggression at a future point in time. Longitudinal data is needed to address this question. Furthermore, while the present study examines the relationship between experienced and enacted aggression, such data are still cross-sectional and not conditioned on specific aggressive instances. Experience sampling methodology is more well-suited to address the more qualitative relationship between experiencing aggression and then subsequently engaging in aggression (or vice versa) in a short duration. Alternatively, the data collected in the present studies speak to mean levels of experienced and enacted aggression being interrelated.

One final limitation is the fundamental distribution of workplace aggression. Workplace aggression is a relatively low base-rate construct, with lower endorsement rates than counterproductive work behavior and many other psychological constructs. This may have contributed to model convergence issues for the confirmatory factor analysis in Study 4, and made use of some careless response metrics (i.e., long-string index, Mahalanobis distance) implausible on the aggression items. Aggression also displayed a positive skew in all samples, potentially affecting correlational results. To the extent that the assumption of normality is violated and depending on one's practical purposes, quantifying of bivariate relationships in terms of corresponding percent

changes from one variable to the other (e.g., applied selection scenarios) may be more appropriate.

**Practical Recommendations and Implications**

Jex and Bayne (2017) note that most existing workplace aggression scales were developed using face validity only. The present research represents an improvement in this regard in that scale development was a systematic, multi-study effort that was informed thoroughly by psychometrics. This scale also embodies Colquitt and colleagues (2019) call for greater attention to content validity and specifically definitional correspondence during scale development procedures.

This research has a number of implications, both in terms of findings in these studies and for the IWAS scale going forward. There are eight major takeaways from this stream of research, outlined below. A) Definitional correspondence is an essential piece of scale development. This research illustrated the consequences of a scale when definitional correspondence was and was not met. Namely, inclusion of intent to harm while measuring workplace aggression had non-trivial findings for the psychometric properties of workplace aggression. Results for the English version of the IWAS were particularly striking in Study 3: aggression went from being strongly correlated to largely independent of CWB when shifting from measuring aggression without, and subsequently, with intent to harm. Relatedly, B) the base rate of workplace aggression has been overestimated in prior research. This is because prior research has not sufficiently measured workplace aggression with intent to harm. As such, any estimates (e.g., NCASA, 2000; Schat, Frone, & Kelloway, 2006) of the prevalence of workplace aggression should be interpreted with caution. C) Both response perspectives should be

considered when measuring workplace aggression. This research showed that those who engage in workplace aggression at higher rates also tend to experience workplace aggression at higher rates (and vice versa). D) Trait anger and negative affect consistently predict workplace aggression, holding other variables constant. These two variables are likely to be of particular use when the goal is predicting enacted or experienced workplace aggression, whereas organizational justice may be of use when predicting experienced aggression in Western cultures. E) Workplace aggression displays a strong general factor. This indicates that those who engage in single aggressive acts are at a higher risk of engaging in other aggressive acts. F) Direct measurement of workplace aggression resulted in three lower-order facets of verbal aggression, physical aggression, and social undermining. G) Amazon MTurk samples should be screened extensively for careless responding, as these studies observed an increase in careless responding in recent years, which falls in line with greater reported trends in MTurk data (DeSimone & Harms, 2018; Kennedy et al., 2018). Lastly and importantly, H) One must consider the intended purpose for measurement before deciding on whether to measure the more specific construct of workplace aggression versus the broader construct of CWB. If one is interested in screening for more generally undesirable behaviors, then using predictors validated against CWB are likely to yield more positive results due to CWB's higher base rate and the general factor of counterproductivity. However, if there are specific aggressive issues in the workplace or if one is interested in studying aggression specifically for academic purposes, then clearly a workplace aggression scale should be used.

Going forward, future research should leverage the construct-valid IWAS scale in the study of workplace aggression. Specifically, future research using the IWAS with a nationally representative sample would be useful to establish updated base-rates for aggression in the workplace. A follow-up data collection using the English version of the IWAS and CWB in an organizational setting would be particularly useful to evaluate the generalizability of Study 3's distinction between aggression and CWB. Such a data collection would also be useful for further evaluating aggression's lower-order facet structure and the existence (or lack thereof) of differential validity for the facet scales. More broadly, use of the IWAS in future research will provide a clearer picture of aggression's validity, reliability, and base rate. Future research on the base rate of aggression could use IWAS items in addition to more minor negative behaviors that do not necessarily include intent to harm. Examining both aggression and more subtle behaviors may address concerns of honest responding and paint a broader picture of negative interactions in the workplace. Other fruitful avenues of future research would utilize non-cross-sectional data collection. For example, longitudinal data could better speak to the potential to predict future aggressive behaviors by identifying predictor traits or profiles leading to aggression. Additionally, experience sampling methodology could investigate specific aggressive instances, potential escalating patterns of aggression, and reciprocal aggression between the victim and aggressor.

## Conclusion

Workplace aggression is consistently defined with an intent to harm others, though workplace aggression measures do not sufficiently measure the concept of intent to harm. Consequently, many subtle behaviors that fall more broadly within CWB were

being labeled and studied as workplace aggression. This has affected estimates of workplace aggression's base rate, factor structure, and nomological network. The present series of studies developed a new scale to measure workplace aggression that includes intent to harm, while utilizing the items displaying strong psychometric properties from past aggression scales. This scale also includes two versions from the victim and aggressor perspective in order to facilitate study of the inter-relatedness of experienced versus enacted aggression. This research also represents an illustration of the principle of definitional correspondence, highlighting the idea that measures to assess psychological constructs should appropriately correspond with that construct's definition. In conclusion, the Intentional Workplace Aggression Scale represents a construct-valid, systematically developed measure that can be utilized in future research to study aggression as a distinct construct and better distinguish between aggression and other, related constructs.

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Table 1
*Definitions of Workplace Aggression and CWB*

| **Workplace Aggression** |
| --- |
| "Workplace aggression represents forms of interpersonal mistreatment that are (1) relatively severe, and (2) where there is a clear intent on the part of the perpetrator to harm the victim of such behaviors" (Jex & Bayne, 2017, p. 9) |
| "Efforts by individuals to harm others with whom they work or the organizations in which they are employed" (Neuman & Baron, 1996, p. 161) |
| "Any behavior directed by one or more persons in a workplace toward the goal of harming one or more others in that workplace (or the entire organization) in ways that the intended targets are motivated to avoid" form (Neuman & Baron, 2005, p. 18) |
| "Any behavior initiated by employees that is intended to harm an individual within their organization or the organization itself and the target is motivated to avoid" (Hershcovis et al., 2007, p. 229) |
| "Negative acts that are perpetrated against an organization or its members and that victims are motivated to avoid" (Hershcovis & Barling, 2010, p. 24-25)" |
| **Counterproductive Work Behavior** |
| "Voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization, its members, or both" (Robinson & Bennett, 1995, p. 556) |
| "Any intentional behavior on the part of an organization member viewed by the organization as contrary to its legitimate interests" (Sackett & Devore, 2001, p. 145) |
| "Volitional acts that harm or intend to harm organizations and their stakeholders" (Spector & Fox, 2005, p. 151) |
| "Scalable actions and behaviors that employees engage in that detract from organizational goals or well-being and include behaviors that bring about undesirable consequences for the organization or its stakeholders" (Ones & Dilchert, 2013, p. 645) |

Table 2

*Individual Items from Workplace Aggression Scales at Odds with Requirement of "Intent to Harm"*

| |
|---|
| "Giving someone the silent treatment"<br>"Verbal sexual harassment"<br>"Interfering with or blocking the target's work"<br>(Neuman & Baron, 1998) |
| "Yelling or raising voices"<br>"Making angry gestures (e.g., pound fist, roll eyes)"<br>"Flaunting status or power over another"<br>(Glomb, 2002) |
| "Been cornered or placed in a position that was difficult to get out of "<br>"Had a door abruptly shut in your face"<br>(Barling, Rogers, & Kelloway, 2001) |
| "Not been given the praise for which you felt entitled"<br>"Had others fail to deny false rumors about you"<br>"Had someone else take credit for your work or ideas"<br>(Neuman & Keashly, 2004) |

Table 3
*Degree of Intent to Harm for Aggression Scales*

| Scale | Scale Mean | Scale SD | Number of Items | Construct Name |
|---|---|---|---|---|
| Barling, Rogers, & Kelloway (2001) | 4.51 | .65 | 10 | Workplace Aggression |
| European NEXT | 4.39 | .20 | 4 | Workplace Violence |
| Einarsen & Raknes (1997) | 4.04 | .74 | 22 | Negative Acts |
| Neuman & Baron (1998) | 4.03 | .93 | 32 | Workplace Aggression |
| Glomb (2002) | 3.94 | .94 | 19 | Workplace Aggression |
| Spector & Jex (1998) | 3.80 | .29 | 3 | Interpersonal Conflict at Work |
| Neuman & Keashly (2004) | 3.53 | .46 | 33 | Workplace Aggression |
| Robinson & Bennett (2000) | 3.21 | .60 | 24 | Workplace Deviance |

*Notes*. *N* = 138. The response scale for all items was as follows: 1 (*No intent to harm)*, 2 (*Very low likelihood*), 3 (*Low likelihood*), 4 (*Moderate likelihood*), 5 (*High likelihood*), 6 (*Very high likelihood*).

Table 4

*Dependent Samples t-tests- Intent to Harm Ratings of Aggression Scales*

| | Barling et al. (2001) | Neuman & Baron (1998) | Glomb (2002) | Neuman & Keashly (2004) | European NEXT | Einarsen & Raknes (1997) | Spector & Jex (1998) | Robinson & Bennett (2000) |
|---|---|---|---|---|---|---|---|---|
| Construct Assessed | Workplace Aggression | Workplace Aggression | Workplace Aggression | Workplace Aggression | Workplace Violence | Negative Acts | Interpersonal Conflict | Workplace Deviance |
| Scale Mean | 4.51 | 4.03 | 3.94 | 3.53 | 4.39 | 4.04 | 3.80 | 3.21 |
| Barling et al. (2001) | | | | | | | | |
| Neuman & Baron (1998) | 4.88** | | | | | | | |
| Glomb (2002) | 5.86** | 1.79 | | | | | | |
| Neuman & Keashly (2004) | 11.01** | 7.61** | 6.46** | | | | | |
| European NEXT | .85 | -2.39* | -3.02** | -6.01** | | | | |
| Einarsen & Raknes (1997) | 4.86** | -.17 | -2.16* | -9.22** | 2.45* | | | |
| Spector & Jex (1998) | 6.81** | 2.45* | 1.71 | -2.49* | 5.10** | 2.71** | | |
| Robinson & Bennett (2000) | 11.95** | 13.18** | 14.24** | 4.52** | 7.72** | 14.44** | 5.61** | |

*Notes.* All values are t-statistics. $N = 138$. * = Significant at .05 alpha level. ** = Significant at .01 alpha level.

Table 5

*Item Frequencies for Each Point in Response Scale*

| Construct | | | Direct Measures of Workplace Aggression | | | | Workplace Violence | Negative Acts | Interpersonal Conflict | Workplace Deviance |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Overall Item Pool** | **Overall-Aggression Scales Only** | Barling, Rogers, & Kelloway (2001) | Neuman & Baron (1998) | Glomb (2002) | Neuman & Keashly (2004) | European NEXT | Einarsen & Raknes (1997) | Spector & Jex (1998) | Robinson & Bennett |
| *No Intent* | **0.0%** | **0.0%** | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| *Very Low Likelihood* | **3.4%** | **1.1%** | 0.0% | 0.0% | 5.3% | 0.0% | 0.0% | 0.0% | 0.0% | 16.7% |
| *Low Likelihood* | **30.3%** | **31.9%** | 10.0% | 28.1% | 26.3% | 45.5% | 0.0% | 18.2% | 0.0% | 41.7% |
| *Moderate Likelihood* | **50.3%** | **47.9%** | 50.0% | 43.8% | 42.1% | 54.5% | 100% | 59.1% | 100% | 41.7% |
| *High Likelihood* | **13.8%** | **16.0%** | 40.0% | 21.9% | 21.1% | 0.0% | 0.0% | 22.7% | 0.0% | 0.0% |
| *Very High Likelihood* | **2.1%** | **3.2%** | 0.0% | 6.2% | 5.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

*Notes*. $N$ = 138. Mean response across all participants was calculated for each item, then mean was rounded to nearest scale point (e.g., 3.6 becomes a 4, which is "Moderate Likelihood"). Overall estimates of prevalence use full item pools, meaning that scales do not receive equal weight.

Table 6

*Sampling of Items at Each Scale Point*

| Scale Point | Example Items |
|---|---|
| No Intent to Harm | NA[1] |
| Very Low Intent | "Taken an additional or a longer break than is acceptable at your workplace"<br>"Spent too much time fantasizing or daydreaming instead of working" |
| Low Intent | "Using an angry tone of voice"<br>"Been given the silent treatment" |
| Moderate Intent | "Cursed at someone at work"<br>"Made an ethnic, religious, or racial remark or joke at work" |
| High Intent | "Making threats"<br>"Verbal sexual harassment" |
| Very High Intent[2] | "Physically assaulting another"<br>"Attack with a weapon" |

*Notes*. [1] No items fell within the "No Intent" range. [2] There were only three items within the "Very High" range, and all three dealt with physical assault.

Table 7
*Congruence Coefficients of General Factor Across Four Item Pools*

| | Intent-Aggressor | No Intent-Aggressor | Intent-Victim | No Intent-Victim |
|---|---|---|---|---|
| Intent- Aggressor | | | | |
| No Intent- Aggressor | .97 | | | |
| Intent- Victim | .98 | .98 | | |
| No Intent- Victim | .98 | .98 | .98 | |

*Notes*. Use of label "Intent" means that the phrase "with intent to harm" was included in each item, whereas "No Intent" does not include this phrase. "Aggressor" represents items phrased from the perspective of the aggressor, whereas "Victim" represents items phrased from the perspective of the victim. Intent to harm was a between-subjects factor and response perspective was a within-subjects factor. $N = 193$ for each sample.

Table 8

*Factors of Aggression and Examples of Highest Loadings Items*

| |
|---|
| **Physical** |
| I have thrown something at another person with the intent of harming them |
| Someone has tried to hit me with something with the intent of harming me |
| I have used threats of physical violence at someone with the intent to harm them |
| **Verbal** |
| Someone has reprimanded or put me down in front of others with the intent to harm me |
| I have made repeated offensive remarks to someone or about their private life with intent to harm them |
| Someone has accused me of deliberately making an error with intent to harm me |
| **Social Undermining** |
| Someone has destroyed mail or messages I needed with the intent of harming me |
| I have interfered with or blocked someone's work with the intent of harming them |
| I have excluded another person from work-related social gatherings with the intent of harming them |
| **Anger** |
| I have yelled or shouted at someone in a hostile manner |
| Someone has sworn at me with the intent of harming me |
| Someone has made angry gestures at me with the intent of harming me |
| **Sexual** |
| Someone has given me unwanted sexual attention with the intent of harming me |
| I have verbally sexually harassed someone with the intent of harming them |
| **Work Avoidance**[1] |
| I have put little effort into my work with the intent to harm the organization |
| I have left work early or come in late without permission with intent to harm the organization |

*Notes*. Items are only presented with intent to harm included, as this feature is central to the construct of aggression. Items are selected from both victim and aggressor perspectives. Work avoidance items fall outside the definition of workplace aggression outlined in this work, though they were included in this analysis to evaluate the factor structure of a broad conceptualization of aggression.

Table 9

*Congruence Coefficients Across Item Pools for 6-factor Principal Components Solution*

| | | Intent- Aggressor | | | | | | No Intent- Aggressor | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| Intent- Aggressor | 1 | | .11 | -.02 | .30 | .31 | .11 | **.97** | .10 | .20 | .12 | .10 | .15 |
| | 2 | | | -.13 | -.07 | .00 | .05 | .02 | .49 | -.43 | .17 | .04 | .01 |
| | 3 | | | | .11 | -.09 | -.05 | .04 | -.24 | .19 | -.03 | .05 | -.08 |
| | 4 | | | | | .02 | -.11 | .32 | .11 | .25 | -.23 | -.01 | .11 |
| | 5 | | | | | | .05 | .39 | -.25 | -.36 | -.20 | -.32 | .02 |
| | 6 | | | | | | | .11 | .00 | -.07 | .10 | -.27 | .00 |
| No Intent- Aggressor | 1 | | | | | | | | .08 | .19 | .04 | .04 | .15 |
| | 2 | | | | | | | | | -.02 | .09 | -.08 | .06 |
| | 3 | | | | | | | | | | -.06 | .09 | .11 |
| | 4 | | | | | | | | | | | .05 | -.03 |
| | 5 | | | | | | | | | | | | .00 |
| | 6 | | | | | | | | | | | | |
| Intent- Victim | 1 | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | |
| | 3 | | | | | | | | | | | | |
| | 4 | | | | | | | | | | | | |
| | 5 | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | | |
| No Intent- Victim | 1 | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | |
| | 3 | | | | | | | | | | | | |
| | 4 | | | | | | | | | | | | |
| | 5 | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | | |

*Note*. Congruence coefficients greater than .85 are bolded.

Table 9 – continued

*Congruence Coefficients Across Item Pools for 6-factor Principal Components Solution*

| | | Intent- Victim | | | | | | No Intent- Victim | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| Intent-Aggressor | 1 | **.98** | -.07 | .20 | .10 | -.01 | .05 | **.97** | .24 | .23 | -.02 | .05 | -.05 |
| | 2 | .02 | .43 | .00 | .09 | .34 | .15 | .06 | .00 | -.16 | .56 | .18 | .24 |
| | 3 | .06 | -.05 | .10 | -.19 | -.05 | -.10 | .04 | -.11 | .22 | -.17 | -.11 | .06 |
| | 4 | .33 | -.14 | .09 | .02 | -.07 | -.14 | .33 | .05 | .13 | -.08 | .02 | .14 |
| | 5 | .31 | .16 | .68 | -.04 | .07 | -.05 | .33 | .60 | -.32 | -.23 | .45 | -.21 |
| | 6 | .10 | .35 | .33 | .07 | -.02 | -.01 | .08 | .15 | .03 | .17 | .21 | .04 |
| No Intent-Aggressor | 1 | **.98** | -.04 | .26 | .06 | -.03 | .00 | **.98** | .29 | .18 | -.07 | .08 | -.06 |
| | 2 | .07 | .24 | -.31 | .15 | .06 | .07 | .11 | -.30 | .02 | .46 | .03 | .45 |
| | 3 | .24 | -.43 | -.21 | -.13 | -.27 | .09 | .22 | -.45 | .52 | -.30 | -.21 | -.17 |
| | 4 | .08 | .05 | -.09 | .30 | -.02 | .05 | .04 | .01 | .09 | .29 | -.20 | .06 |
| | 5 | .11 | -.20 | -.42 | .10 | .00 | -.06 | .07 | -.14 | .25 | .04 | -.32 | -.09 |
| | 6 | .14 | .09 | .17 | -.01 | -.04 | -.03 | .16 | .06 | -.08 | -.06 | .28 | .16 |
| Intent-Victim | 1 | | -.10 | .18 | .09 | -.07 | .00 | **.98** | .22 | .25 | -.07 | .01 | -.07 |
| | 2 | | | .26 | -.05 | .17 | .03 | -.06 | .14 | -.44 | .54 | .40 | .25 |
| | 3 | | | | -.12 | .19 | .05 | .20 | .60 | -.27 | -.18 | .57 | -.16 |
| | 4 | | | | | .10 | .10 | .09 | .10 | -.14 | .28 | -.18 | .18 |
| | 5 | | | | | | .06 | -.02 | .27 | -.23 | .16 | .27 | -.01 |
| | 6 | | | | | | | .03 | .12 | .08 | -.06 | -.17 | .02 |
| No Intent-Victim | 1 | | | | | | | | .19 | .17 | -.07 | .05 | -.05 |
| | 2 | | | | | | | | | -.16 | -.08 | .23 | -.11 |
| | 3 | | | | | | | | | | -.15 | -.21 | .01 |
| | 4 | | | | | | | | | | | -.04 | .22 |
| | 5 | | | | | | | | | | | | .04 |
| | 6 | | | | | | | | | | | | |

*Note*. Congruence coefficients above .85 are bolded.

Table 10

*Mean Differences for Aggression Measures Across Intent to Harm and Response Perspective*

| | **Intent Included** | **No Intent** | **Intent-No Intent *d*** |
|---|---|---|---|
| *N* | 193 | 193 | |
| | Loadings > .40[1] 77 items | | ---- |
| Aggressor *M (SD)* | 1.12 (.18) | 1.21 (.24) | .42 |
| Victim *M (SD)* | 1.26 (.31) | 1.35 (.36) | .27 |
| Overall *M (SD)* | 1.19 (.26) | 1.28 (.31) | .31 |
| **Aggressor-Victim *d*** | .55 | .46 | --- |
| | Loadings > .50[1] 55 items | | |
| *Aggressor M (SD)* | 1.14 (.21) | 1.24 (.28) | .40 |
| Victim *M (SD)* | 1.31 (.37) | 1.41 (.41) | .26 |
| Overall *M (SD)* | 1.23 (.31) | 1.33 (.36) | .30 |
| **Aggressor-Victim *d*** | .57 | .48 | --- |
| | Loadings > .60[1] 12 items | | |
| Aggressor *M (SD)* | 1.17 (.27) | 1.25 (.30) | .28 |
| Victim *M (SD)* | 1.41 (.49) | 1.46 (.50) | .10 |
| Overall *M (SD)* | 1.29 (.41) | 1.36 (.42) | .17 |
| **Aggressor-Victim *d*** | .61 | .51 | --- |

*Notes.* [1] Items were selected for inclusion in analysis that loaded onto the general factor of aggression with intent to harm included above the specified loading level (.40, .50, and .60). These loadings were calculated from the intent to harm victim and aggressor pools from a one-factor principal components analysis. *General Notes.* All means represent overall mean rate of occurrence of aggression across selected items for each sample. For example, 1.13 represents the mean occurrence of aggression for 193 participants responding to the aggressor-perspective items with intent to harm included, when only items with a loading of .40 or above were included. All responses are on a scale of 1 (*Never*), 2 (*Once or Twice*), 3 (*About Once a Month*), 4 (*About Once a Week*), or 5 (*Daily*).

Table 11

*Meta-Analytic Correlations of Other Constructs with Aggression and CWB*

| Meta-Analysis | Predictor | Criterion | k | N | ρ | SDρ |
|---|---|---|---|---|---|---|
| Hershcovis et al. (2007) | Trait Anger | Workplace Aggression | 10 | 2,648 | .43 | NR |
| Hershcovis et al. (2007) | Negative Affect | Workplace Aggression | 5 | 1,532 | .29 | NR |
| Hershcovis et al. (2007) | Distributive Justice | Workplace Aggression | 11 | 3,257 | -.15 | NR |
| Hershcovis et al. (2007) | Procedural Justice | Workplace Aggression | 11 | 3,257 | -.21 | NR |
| Hershcovis et al. (2007) | Job Satisfaction | Workplace Aggression | 6 | 1,345 | -.37 | NR |
| Berry, Ones, & Sackett (2007) | Conscientiousness | CWB-Interpersonal | 11 | 3,458 | -.23 | .13 |
| Berry, Ones, & Sackett (2007) | Agreeableness | CWB-Interpersonal | 10 | 3,336 | -.46 | .10 |
| Berry, Ones, & Sackett (2007) | Emotional Stability | CWB-Interpersonal | 10 | 2,842 | -.24 | .12 |

*Note*. NR = Not Reported.

Table 12

*Intentional Workplace Aggression Scale (IWAS) Item Means*

| Item | Intent *M* | No Intent *M* |
|---|---|---|
| I have treated someone in a condescending manner with the intent of harming them | 1.33 | 1.52 |
| I have given someone the silent treatment with the intent of harming them | 1.28 | 1.46 |
| I have interrupted another person when they were speaking or working with the intent of harming them | 1.27 | 1.99 |
| I have talked behind someone's back or spread rumors about someone with the intent of harming them | 1.26 | 1.45 |
| I have neglected someone's opinions with the intent of harming them | 1.25 | 1.63 |
| I have avoided another person with the intent of harming them | 1.22 | 1.76 |
| I have devalued someone's work and efforts with the intent of harming them | 1.22 | 1.32 |
| I have insulted or criticized another with the intent of harming them | 1.21 | 1.36 |
| I have lied to another person with the intent of harming them | 1.20 | 1.67 |
| I have made fun of someone with the intent of harming them | 1.20 | 1.41 |
| I have yelled at or raised my voice at someone with the intent of harming them | 1.19 | 1.32 |
| I have delayed action on matters that were important to someone with the intent of harming them | 1.17 | 1.41 |
| I have reprimanded or put down someone in front of others with the intent of harming them | 1.16 | 1.22 |
| I have exploited someone at work with the intent of harming them | 1.12 | 1.18 |
| I have verbally abused another person with the intent of harming them | 1.11 | 1.14 |
| I have used derogatory name calling toward someone with the intent of harming them | 1.09 | 1.10 |
| I have saboataged someone's work with the intent of harming them | 1.07 | 1.08 |
| I have given unwanted sexual attention to someone with the intent of harming them | 1.05 | 1.09 |
| I have used threats of physical abuse towards someone with the intent of harming | 1.04 | 1.02 |
| I have physically abused someone with intent to harm them | 1.01 | 1.02 |

*Notes.* This table represents the final scale of 20-items comprising the IWAS-A. Intent and no intent means are averaged across victim and aggressor perspectives. Items in the "Item" column are the item stem with intent to harm included and from the aggressor perspective. To get the "no intent" item simply remove the phrase "with intent to harm" on the end. All responses are on a scale of 1 (*Never*), 2 (*Once or Twice*), 3 (*About Once a Month*), 4 (*About Once a Week*), or 5 (*Daily*). Intent condition $N = 209$. No intent condition $N = 216$.

Table 13

*Mean Differences for Aggression Measures Across Intent to Harm and Response Perspective*

| | **Intentional Workplace Aggression Scale (IWAS)** | | | **Full Item Pool** | | | **IWAS-Full Item Pool *d*'s** | |
|---|---|---|---|---|---|---|---|---|
| | Intent | No Intent | Intent Condition *d* | Intent | No Intent | Intent Condition *d* | Intent | No Intent |
| *N* | 209 | 216 | 425 | 209 | 216 | 425 | 209 | 216 |
| Aggressor *M (SD)* | 1.11 (.22) | 1.29 (.30) | .68 | 1.11 (.21) | 1.25 (.27) | .58 | .00 | -.14 |
| Victim *M (SD)* | 1.23 (.36) | 1.43 (.44) | .50 | 1.23 (.35) | 1.41 (.43) | .46 | .00 | -.05 |
| Aggressor - Victim *d* | .40 | .37 | -- | .42 | .45 | -- | -- | -- |

*Notes.* Final scale contains 20 items; full item pool contains 50 items. All responses are on a scale of 1 (*Never*), 2 (*Once or Twice*), 3 (*About Once a Month*), 4 (*About Once a Week*), or 5 (*Daily*).

Table 14

*IWAS Bifactor Loadings- Aggressor Perspective Items*

| | Amazon MTurk Data | | | | | SME Rater Data | | |
|---|---|---|---|---|---|---|---|---|
| Item | General Factor Loading | Comp. 2 Loading | Comp. 3 Loading | Comp. 4 Loading | 50-Item Primary Loading | Rated Facet | Percent Agree | Final Facet Decision |
| I have used derogatory name calling toward someone with the intent of harming them | .55 | -.15 | -.08 | .60 | None | Verbal | 100 | Verbal |
| I have insulted or criticized another with the intent of harming them | .65 | .13 | .13 | .10 | None | Verbal | 100 | Verbal |
| I have sabotaged someone's work with the intent of harming them | .65 | -.48 | -.06 | -.37 | Social Under. | Social Under. | 100 | Social Under. |
| I have talked behind someone's back or spread rumors about someone with the intent of harming them | .49 | .42 | .06 | -.05 | Social Under. | Verbal | 75 | Verbal |
| I have yelled at or raised my voice at someone with the intent of harming them | .73 | .31 | -.40 | .05 | Anger | Verbal | 92 | Verbal |
| I have interrupted another person when they were speaking or working with the intent of harming them | .65 | .11 | .34 | .02 | Verbal | Verbal | 67 | Verbal |
| I have exploited someone at work with the intent of harming them | .68 | -.04 | -.29 | -.43 | Social Under. | Social Under. | 42 | Social Under. |
| I have devalued someone's work and efforts with the intent of harming them | .62 | .14 | .54 | -.02 | Verbal | Social Under. | 58 | Social Under. |
| I have neglected someone's opinions with the intent of harming them | .66 | .11 | .49 | .00 | Verbal | No Fit | 50 | Social Under. |
| I have reprimanded or put down someone in front of others with the | .56 | -.17 | .02 | .23 | Anger | Verbal | 67 | Verbal |
| I have lied to another person with the intent of harming them | .59 | .13 | .22 | -.48 | Social Under. | Social Under. | 50 | Verbal |
| I have given someone the silent treatment with the intent of harming them | .62 | .37 | .11 | -.02 | Social Under. | Verbal | 42 | Social Under. |

Table 14 – continued

*IWAS Bifactor Loadings- Aggressor Perspective Items*

| | Amazon MTurk Data | | | | | SME Rater Data | | |
|---|---|---|---|---|---|---|---|---|
| Item | General Factor Loading | Comp. 2 Loading | Comp. 3 Loading | Comp. 4 Loading | 50-Item Primary Loading | Rated Facet | Percent Agree | Final Facet Decision |
| I have given unwanted sexual attention to someone with the intent of harming them | .68 | -.37 | -.15 | -.23 | Physical | Physical | 50 | No Fit |
| I have avoided another person with the intent of harming them | .48 | .44 | .19 | .14 | Social Under. | No Fit | 67 | No Fit |
| I have treated someone in a condescending manner with the intent of harming them | .75 | .37 | -.03 | .00 | None | Verbal | 58 | Verbal |
| I have made fun of someone with the intent of harming them | .64 | .08 | .25 | .40 | Verbal | Verbal | 83 | Verbal |
| I have physically abused someone with intent to harm them | .59 | -.74 | .11 | .12 | Physical | Physical | 100 | Physical |
| I have verbally abused another person with the intent of harming them | .72 | .02 | -.25 | .34 | Verbal | Verbal | 100 | Verbal |
| I have delayed action on matters that were important to someone with the intent of harming them | .40 | -.09 | .75 | -.03 | Social Under. | Social Under. | 92 | Social Under. |
| I have used threats of physical abuse towards someone with the intent of harming them | .70 | -.56 | -.03 | .13 | Physical | Physical | 75 | Physical |
| **Facet Judgment** | | Physical | Social Under. | Verbal | | Verbal | 67 | |
| **Component % Variance Accounted For** | 60 | 16 | 14 | 10 | | Social Under. | 42 | |

*Notes*. Intent condition *N* = 209. SME Rater Data *N* = 12. Social Under. = Social Undermining.

Table 15
*IWAS Bifactor Loadings- Victim Perspective Items*

| | Amazon MTurk Data | | | | | SME Rater Data | | |
|---|---|---|---|---|---|---|---|---|
| Item | General Factor Loading | Component 2 Loading | Component 3 Loading | Component 4 Loading | 50-Item Primary Loading | Rated Facet | Percent Agreement | Final Facet Decision |
| Someone has subjected me to derogatory name calling with the intent of harming me | .65 | .18 | .43 | -.10 | None | Verbal | 100 | Verbal |
| Someone has made insults or criticisms toward me with the intent of harming me | .79 | -.12 | .29 | .02 | None | Verbal | 100 | Verbal |
| Someone has sabotaged my work with the intent of harming me | .72 | .23 | .01 | .25 | Social Under. | Social Under. | 100 | Social Under. |
| Someone has talked behind my back or spread rumors about me with the intent of harming me | .67 | -.10 | -.38 | -.02 | Social Under. | Verbal | 75 | Verbal |
| Someone has yelled or raised their voice at me with the intent of harming me | .71 | -.06 | -.10 | -.49 | Anger | Verbal | 92 | Verbal |
| Someone has interrupted me when I am speaking or working with intent to harm me | .76 | -.21 | -.01 | .06 | Verbal | Verbal | 67 | Verbal |
| Someone has exploited me at work with the intent of harming me | .70 | -.07 | -.09 | .38 | Social Under. | Social Under. | 42 | Social Under. |
| Someone has devalued my work or efforts with the intent of harming me | .71 | .04 | -.15 | .45 | Verbal | Social Under. | 58 | Social Under. |
| Someone has neglected my opinions with the intent of harming me | .70 | -.20 | .05 | .15 | Verbal | No Fit | 50 | Social Under. |
| Someone has reprimanded or put me down in front of others with the intent of harming me | .65 | -.16 | .53 | .10 | Anger | Verbal | 67 | Verbal |
| Someone has lied to me with the intent of harming me | .74 | -.01 | -.35 | .07 | Social Under. | Social Under. | 50 | Verbal |
| Someone has given me the silent treatment with the intent of harming me | .72 | -.08 | -.20 | -.32 | Social Under. | Verbal | 42 | Social Under. |

Table 15 – continued
*IWAS Bifactor Loadings- Victim Perspective Items*

| | Amazon MTurk Data | | | | | SME Rater Data | | |
|---|---|---|---|---|---|---|---|---|
| Item | General Factor Loading | Component 2 Loading | Component 3 Loading | Component 4 Loading | 50-Item Primary Loading | Rated Facet | Percent Agreement | Final Facet Decision |
| Someone has given me unwanted sexual attention with the intent of harming me | .42 | .64 | -.18 | -.03 | Physical | Physical | 50 | No Fit |
| Someone has avoided me with the intent of harming me | .77 | -.07 | -.19 | -.17 | Social Under. | No Fit | 67 | No Fit |
| Someone has treated me in a condescending manner with the intent of harming me | .68 | -.27 | .25 | .08 | None | Verbal | 58 | Verbal |
| Someone has made fun of me with the intent of harming me | .71 | -.02 | .11 | .27 | Verbal | Verbal | 83 | Verbal |
| Someone has physically abused me with the intent of harming me | .25 | .68 | .03 | .06 | Physical | Physical | 100 | Physical |
| Someone has verbally abused me with the intent of harming me | .63 | .27 | .37 | -.25 | Verbal | Verbal | 100 | Verbal |
| Someone has delayed action on matters that were important to me with the intent of harming me | .74 | .08 | .03 | .38 | Social Under. | Social Under. | 92 | Social Under. |
| Someone has threatened me with physical abuse with the intent of harming me | .27 | .67 | .12 | .01 | Physical | Physical | 75 | Physical |
| **Facet Judgment** | | Physical | Verbal | Social Under. | | Verbal | 67 | |
| **Component % Variance Accounted For** | 69 | 13 | 9 | 9 | | Social Under. | 42 | |

*Notes*. Intent condition *N* = 209. SME Rater Data *N* = 12. Social Under. = Social Undermining.

Table 16
*Congruence Coefficients for IWAS-A and IWAS-V Principal Components Analysis*

| | | IWAS-V | | | |
|---|---|---|---|---|---|
| | | General Factor | PC 2 (Physical) | PC 3 (Verbal) | PC 4 (Social Undermining) |
| IWAS-A | General Factor | .96 | .25 | .14 | .16 |
| | PC 2 (Physical) | .17 | -.79 | -.28 | -.27 |
| | PC 3 (Social Undermining) | .37 | -.13 | -.11 | .57 |
| | PC 4 (Verbal) | .07 | .07 | .66 | -.28 |

*Notes*. 'PC' = Principal Component. $N = 209$.

Table 17
*Internal Consistency Reliability for All Scales Included*

| | | Intent Condition | No Intent Condition |
|---|---|---|---|
| | # of Items | Cronbach's α | Cronbach's α |
| Aggressor-Full | 50 | .96 | .95 |
| Victim-Full | 50 | .97 | .97 |
| IWAS-A | 20 | .92 | .89 |
| *IWAS-A: Verbal* | 10 | .87 | .82 |
| *IWAS-A: Social Undermining* | 6 | .79 | .70 |
| *IWAS-A: Physical* | 2 | .93 | .48 |
| IWAS-V | 20 | .93 | .91 |
| *IWAS-V: Verbal* | 10 | .90 | .88 |
| *IWAS-V: Social Undermining* | 6 | .86 | .81 |
| *IWAS-V: Physical* | 2 | .47 | .63 |
| Negative Affect | 10 | .91 | .92 |
| Positive Affect | 10 | .93 | .93 |
| Trait Anger | 15 | .91 | .93 |
| Emotional Stability | 20 | .95 | .95 |
| *Withdrawal* | 10 | .90 | .91 |
| *Volatility* | 10 | .92 | .93 |
| Agreeableness | 20 | .91 | .89 |
| *Compassion* | 10 | .93 | .90 |
| *Politeness* | 10 | .82 | .76 |
| Conscientiousness | 20 | .91 | .89 |
| *Industriousness* | 10 | .90 | .87 |
| *Orderliness* | 10 | .84 | .83 |
| Job Satisfaction | 38 | .96 | .95 |
| *Job in General* | 8 | .78 | .90 |
| *People* | 6 | .63 | .83 |
| *Work* | 6 | .77 | .88 |
| *Pay* | 6 | .76 | .89 |
| *Promotions* | 6 | .83 | .93 |
| *Supervisor* | 6 | .78 | .84 |
| Org. Justice Perceptions | 20 | .97 | .98 |

Table 17 – continued
*Internal Consistency Reliability for All Scales Included*

| | | Intent Condition | No Intent Condition |
|---|---|---|---|
| | # of Items | Cronbach's α | Cronbach's α |
| | *Distributive Justice* | 5 | .91 | .90 |
| | *Procedural Justice* | 6 | .92 | .94 |
| | *Interactional Justice* | 9 | .97 | .97 |
| CWB | | 32 | .95 | .82 |
| | *Abuse* | 17 | .93 | .77 |
| | *Production Deviance* | 3 | .75 | .60 |
| | *Sabotage* | 3 | .77 | .11 |
| | *Theft* | 5 | .83 | .59 |
| | *Withdrawal* | 4 | .82 | .71 |

*Notes.* Intent condition $N = 209$; No intent condition $N = 216$.

Table 18
*IWAS Correlates Across Intent Conditions*

| | Intentional Workplace Aggression Scale Correlations (20 items) | | | |
|---|---|---|---|---|
| | Intent Aggressor | No Intent Aggressor | Intent Victim | No Intent Victim |
| Negative Affect | .24 (.26)** | .35 (.39)** | .28 (.30)** | .49 (.54)** |
| Positive Affect | -.09 (-.10) | -.10 (-.11) | -.04 (-.04) | -.14 (-.15)* |
| Trait Anger | .34 (.37)** | .54 (.60)** | .35 (.38)** | .48 (.52)** |
| Emotional Stability | -.21 (-.23)** | -.35 (-.38)** | -.21 (-.22)** | -.33 (-.36)** |
| *Withdrawal* | .24 (.26)** | .29 (.32)** | .24 (.26)** | .33 (.36)** |
| *Volatility* | .15 (.16)* | .37 (.41)** | .16 (.17)* | .29 (.32)** |
| Agreeableness | -.13 (-.14) | -.32 (-.36)** | -.04 (-.04) | -.22 (-.24)** |
| *Compassion* | -.03 (-.03) | -.20 (-.22)** | .03 (.03) | -.16 (-.18)* |
| *Politeness* | -.21 (-.24)** | -.39 (-.48)** | -.13 (-.15) | -.24 (-.29)** |
| Conscientiousness | -.15 (-.16)* | -.19 (-.21)** | -.06 (-.07) | -.15 (-.17)* |
| *Industriousness* | -.21 (-.23)** | -.29 (-.33)** | -.14 (-.15)* | -.26 (-.29)** |
| *Orderliness* | -.04 (-.05) | -.03 (-.03) | .04 (.05) | .00 (.00) |
| Job Satisfaction | -.19 (-.20)** | -.34 (-.37)** | -.28 (-.30)** | -.46 (-.49)** |
| *Job in General* | .24 (.28)** | -.26 (-.29)** | .19 (.22)** | -.39 (-.43)** |
| *People* | -.05 (-.07) | -.34 (-.40)** | -.15 (-.20)* | -.46 (-.53)** |
| *Work* | .25 (.30)** | -.23 (-.26)** | .22 (.26)** | -.19 (-.21)** |
| *Pay* | .11 (.13) | -.16 (-.18)* | .04 (.05) | -.30 (-.33)** |
| *Promotions* | .08 (.09) | -.31 (-.34)** | .04 (.05) | -.33 (-.36)** |
| *Supervisor* | .19 (.22)** | -.22 (-.25)** | .22 (.26)** | -.43 (-.49)** |
| Org. Justice Perceptions | -.22 (-.23)** | -.29 (-.31)** | -.37 (-.39)** | -.53 (-.56)** |

Table 18 – continued
*IWAS Correlates Across Intent Conditions*

| | | Intentional Workplace Aggression Scale Correlations (20 items) | | | |
|---|---|---|---|---|---|
| | | Intent Aggressor | No Intent Aggressor | Intent Victim | No Intent Victim |
| | *Distributive Justice* | -.19 (-.21)** | -.25 (-.28)** | -.31 (-.34)** | -.45 (-.50)** |
| | *Procedural Justice* | -.25 (-.27)** | -.31 (-.34)** | -.40 (-.43)** | -.53 (-.58)** |
| | *Interactional Justice* | -.19 (-.20)** | -.26 (-.28)** | -.31 (-.33)** | -.50 (-.53)** |
| CWB | | .25 (.27)** | .71 (.83)** | .24 (.25)** | .54 (.63)** |
| | *Abuse* | .27 (.29)** | .75 (.91)** | .25 (.27)** | .54 (.65)** |
| | *Production Deviance* | .18 (.22)** | .35 (.48)** | .23 (.28)** | .36 (.49)** |
| | *Sabotage* | .12 (.14) | .30 (.98)** | .14 (.16)* | .21 (.68)** |
| | *Theft* | .10 (.11) | .27 (.37)** | .11 (.13) | .21 (.29)** |
| | *Withdrawal* | .18 (.21)* | .37 (.47)** | .16 (.18)* | .30 (.37)** |

*Notes.* * = $p < .05$; ** = $p < .01$. Significance values apply to both uncorrected and corrected correlations. There was no missing data at the scale score level. Intent condition $N = 209$. No intent condition $N = 216$. Correlations outside parentheses are uncorrected; correlations inside parentheses are corrected for unreliability in both variables.

Table 19
*Full Aggression Item Pool Correlates With and Without Intent to Harm*

| | Full Aggression Item Pool (50 items) | | | |
|---|---|---|---|---|
| | Intent Aggressor | No Intent Aggressor | Intent Victim | No Intent Victim |
| Negative Affect | .22 (.23)** | .37 (.40)** | .32 (.34)** | .50 (.53)** |
| Positive Affect | -.09 (-.09) | -.09 (-.10) | -.04 (-.04) | -.14 (-.15)* |
| Trait Anger | .36 (.38)** | .55 (.59)** | .35 (.37)** | .48 (.51)** |
| Emotional Stability | .22 (.23)** | .37 (.39)** | .22 (.23)** | .33 (.34)** |
| *Withdrawal* | .24 (.26)** | .30 (.32)** | .25 (.27)** | .33 (.35)** |
| *Volatility* | .16 (.17)* | .39 (.42)** | .16 (.17)* | .30 (.32)** |
| Agreeableness | -.13 (-.14) | -.34 (-.37)** | -.05 (-.05) | -.22 (-.24)** |
| *Compassion* | -.04 (-.04) | -.22 (-.24)** | .02 (.02) | -.16 (-.17)* |
| *Politeness* | -.22 (-.25)** | -.39 (-.46)** | -.13 (-.15) | -.24 (-.28)** |
| Conscientiousness | -.14 (-.15) | -.17 (-.18)* | -.06 (-.06) | -.13 (-.14) |
| *Industriousness* | -.20 (-.21)** | -.28 (-.31)** | -.14 (-.15)* | -.23 (-.25)** |
| *Orderliness* | -.03 (-.03) | .00 (.00) | .05 (.06) | .02 (.02) |
| Job Satisfaction | -.19 (-.20)** | -.31 (-.33)** | -.29 (-.30)** | -.45 (-.47)** |
| *Job in General* | .24 (.28)** | -.24 (-.26)** | .20 (.23)** | -.39 (-.42)** |
| *People* | -.07 (-.09) | -.35 (-.39)** | -.15 (-.19)* | -.47 (-.52)** |
| *Work* | .24 (.28)** | -.18 (-.20)** | .23 (.27)** | -.17 (-.18)* |
| *Pay* | .11 (.13) | -.15 (-.16)* | .04 (.05) | -.30 (-.32)** |
| *Promotions* | .07 (.08) | -.30 (-.32)** | .05 (.06) | -.32 (-.34)** |
| *Supervisor* | .21 (.24)** | -.22 (-.25)** | .22 (.25)** | -.45 (-.50)** |
| Org. Justice Perceptions | -.24 (-.25)** | -.27 (-.28)** | -.37 (-.38)** | -.54 (-.56)** |

Table 19 – continued
*Full Aggression Item Pool Correlates With and Without Intent to Harm*

| | | Full Aggression Item Pool (50 items) | | | |
|---|---|---|---|---|---|
| | | Intent Aggressor | No Intent Aggressor | Intent Victim | No Intent Victim |
| | *Distributive Justice* | -.20 (-.21)** | -.25 (-.27)** | -.32 (-.34)** | -.46 (-.49)** |
| | *Procedural Justice* | -.26 (-.28)** | -.29 (-.31)** | -.41 (-.43)** | -.54 (-.57)** |
| | *Interactional Justice* | -.20 (-.21)** | -.23 (-.24)** | -.32 (-.33)** | -.51 (-.53)** |
| CWB | | .26 (.27)** | .72 (.82)** | .22 (.23)** | .53 (.60)** |
| | *Abuse* | .29 (.31)** | .80 (.94)** | .23 (.24)** | .55 (.64)** |
| | *Production Deviance* | .17 (.20)* | .36 (.48)** | .21 (.25)** | .33 (.43)** |
| | *Sabotage* | .13 (.15) | .34 (1.07)** | .12 (.14) | .19 (.59)** |
| | *Theft* | .11 (.12) | .27 (.36)** | .10 (.11) | .20 (.26)** |
| | *Withdrawal* | .17 (.19)* | .33 (.40)** | .16 (.18)* | .26 (.31)** |

*Notes.* * = $p < .05$; ** = $p < .01$. Significance values apply to both uncorrected and corrected correlations. There was no missing data at the scale score level. Intent condition $N = 209$. No intent condition $N = 216$. Correlations outside parentheses are uncorrected; correlations inside parentheses are corrected for unreliability in both variables.

Table 20

*Intercorrelation Matrix of Aggression and Other Constructs*

| | IWAS-A | IWAS-V | Aggr. Full | Victim Full | Negative Affect | Positive Affect | Trait Anger | Emot. Stability | *Withdr.* | *Volat.* | Agree. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IWAS-A | | .69** | .98** | .71** | .24 | -.09 | .34** | .21 | .24 | .15 | -.13 |
| IWAS-V | .65** | | .71** | .98** | .28* | -.04 | .35** | .21 | .24 | .16 | -.04 |
| Aggressor-Full | .96** | .66** | | .74** | .22 | -.09 | .36** | .22 | .24 | .16 | -.13 |
| Victim-Full | .62** | .98** | .65** | | .32** | -.04 | .35** | .22 | .25 | .16 | -.05 |
| Negative Affect | .35** | .49** | .37** | .50** | | -.14 | .43** | .54** | .55** | .45** | -.14 |
| Positive Affect | -.10 | -.14* | -.09 | -.14* | -.22** | | -.26 | -.50** | -.54** | -.38** | .28* |
| Trait Anger | .54** | .48** | .55** | .48** | .47** | -.18** | | .64** | .54** | .66** | -.36** |
| Emotional Stability | .35** | .33** | .37** | .33** | .60** | -.38** | .64** | | .94** | .93** | -.40** |
| *Withdrawal* | .29** | .33** | .30** | .33** | .62** | -.44** | .54** | .94** | | .75** | -.34** |
| *Volatility* | .37** | .29** | .39** | .30** | .52** | -.28** | .66** | .94** | .78** | | -.42** |
| Agreeableness | -.32** | -.22** | -.34** | -.22** | -.15* | .34** | -.28** | -.37** | -.30** | -.39** | |
| *Compassion* | -.20** | -.16* | -.22** | -.16* | -.11 | .36** | -.22** | -.32** | -.29** | -.31** | .91** |
| *Politeness* | -.39** | -.24** | -.39** | -.24** | -.16* | .23** | -.29** | -.34** | -.24** | -.39** | .85** |
| Conscientiousness | -.19** | -.15* | -.17* | -.13 | -.32** | .45** | -.16* | -.47** | -.50** | -.39** | .42** |
| *Industriousness* | -.29** | -.26** | -.28** | -.23** | -.47** | .46** | -.35** | -.65** | -.69** | -.55** | .45** |
| *Orderliness* | -.03 | .00 | .00 | .02 | -.08 | .32** | .11 | -.15* | -.16* | -.12 | .28** |
| Job Satisfaction | -.34** | -.46** | -.31** | -.45** | -.37** | .43** | -.33** | -.32** | -.33** | -.27** | .28** |
| *Job In General* | -.26** | -.39** | -.24** | -.39** | -.33** | .41** | -.30** | -.28** | -.31** | -.23** | .24** |
| *People* | -.34** | -.46** | -.35** | -.47** | -.32** | .21** | -.34** | -.24** | -.22** | -.23** | .33** |
| *Work* | -.23** | -.19** | -.18** | -.17* | -.25** | .41** | -.19** | -.20** | -.22** | -.16* | .23** |
| *Pay* | -.16* | -.30** | -.15* | -.30** | -.21** | .22** | -.15* | -.19** | -.23** | -.12 | .08 |
| *Promotions* | -.31** | -.33** | -.30** | -.32** | -.29** | .38** | -.24** | -.28** | -.27** | -.26** | .20** |

Table 20 – continued

*Intercorrelation Matrix of Aggression and Other Constructs*

| | *Comp.* | *Polite.* | Consc. | *Industr.* | *Order.* | Job Satis. | *Job in General* | *People* | *Work* | *Pay* | *Promot.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IWAS-A | -.03 | -.21 | -.15 | -.21 | -.04 | -.19 | .24 | -.05 | .25 | .11 | .08 |
| IWAS-V | .03 | -.13 | -.06 | -.14 | .04 | -.28* | .19 | -.15 | .22 | .04 | .04 |
| Aggressor-Full | -.04 | -.22 | -.14 | -.20 | -.03 | -.19 | .24 | -.07 | .24 | .11 | .07 |
| Victim-Full | .02 | -.13 | -.06 | -.14 | .05 | -.29** | .20 | -.15 | .23 | .04 | .05 |
| Negative Affect | -.12 | -.12 | -.25 | -.39** | -.02 | -.31** | .23 | .00 | .25 | .15 | .09 |
| Positive Affect | .33** | .13 | .56** | .62** | .34** | .47** | -.40** | -.04 | -.47** | -.09 | -.10 |
| Trait Anger | -.27* | -.35** | -.30** | -.42** | -.07 | -.40** | .28* | -.19 | .36** | .16 | .05 |
| Emotional Stability | -.33** | -.36** | -.58** | -.74** | -.24 | -.43** | .29** | -.09 | .34** | .13 | .01 |
| *Withdrawal* | -.33** | -.24 | -.57** | -.75** | -.22 | -.46** | .31** | -.08 | .33** | .11 | .05 |
| *Volatility* | -.29** | -.44** | -.51** | -.64** | -.23 | -.35** | .23 | -.08 | .30** | .14 | -.04 |
| Agreeableness | .89** | .83** | .41** | .38** | .34** | .20 | -.20 | .06 | -.22 | -.06 | -.01 |
| *Compassion* | | .49** | .38** | .35** | .31** | .25 | -.27* | .00 | -.25 | -.03 | -.06 |
| *Politeness* | .54** | | .32** | .30** | .26* | .08 | -.05 | .11 | -.12 | -.07 | .05 |
| Conscientiousness | .36** | .40** | | .90** | .86** | .32** | -.29** | -.08 | -.30** | -.14 | -.11 |
| *Industriousness* | .40** | .39** | .89** | | .55** | .38** | -.32** | -.02 | -.34** | -.17 | -.08 |
| *Orderliness* | .21** | .30** | .86** | .53** | | .16 | -.18 | -.14 | -.17 | -.07 | -.12 |
| Job Satisfaction | .30** | .18** | .37** | .37** | .26** | | -.66** | .00 | -.74** | -.20 | -.43** |
| *Job In General* | .25** | .17* | .37** | .36** | .27** | .87** | | .23 | .63** | .23 | .30** |
| *People* | .32** | .24** | .14* | .20** | .04 | .77** | .61** | | .16 | .17 | .15 |
| *Work* | .25** | .15* | .36** | .32** | .31** | .79** | .74** | .54** | | .24 | .29** |
| *Pay* | .08 | .05 | .23** | .22** | .17* | .68** | .50** | .39** | .37** | | .22 |
| *Promotions* | .22** | .11 | .30** | .30** | .22** | .77** | .54** | .44** | .53** | .51** | |

Table 20 – continued

*Intercorrelation Matrix of Aggression and Other Constructs*

| | *Superv.* | Org. Justice | *Distrib. Justice* | *Proced. Justice* | *Interact.Justice* | CWB | *Abuse* | *Produc. Dev.* | *Sabot.* | *Theft* | *Withdr.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IWAS-A | .19 | -.22 | -.19 | -.25 | -.19 | .25 | .27* | .18 | .12 | .10 | .18 |
| IWAS-V | .22 | -.37** | -.31** | -.40** | -.31** | .24 | .25 | .23 | .14 | .11 | .16 |
| Aggressor-Full | .21 | -.24 | -.20 | -.26* | -.20 | .26 | .29** | .17 | .13 | .11 | .17 |
| Victim-Full | .22 | -.37** | -.32** | -.41** | -.32** | .22 | .23 | .21 | .12 | .10 | .16 |
| Negative Affect | .18 | -.22 | -.18 | -.24 | -.19 | .17 | .11 | .21 | .09 | .07 | .23 |
| Positive Affect | -.37** | .45** | .40** | .42** | .43** | -.05 | -.02 | -.14 | -.05 | -.03 | -.06 |
| Trait Anger | .12 | -.33** | -.32** | -.31** | -.28* | .19 | .14 | .19 | .10 | .11 | .21 |
| Emotional Stability | .25 | -.46** | -.42** | -.45** | -.43** | .20 | .13 | .29** | .16 | .17 | .18 |
| *Withdrawal* | .29** | -.47** | -.41** | -.47** | -.44** | .20 | .12 | .30** | .18 | .16 | .18 |
| *Volatility* | .17 | -.39** | -.37** | -.36** | -.37** | .18 | .13 | .24 | .12 | .17 | .16 |
| Agreeableness | -.12 | .31** | .26 | .30** | .33** | -.23 | -.29** | -.18 | -.20 | -.17 | .03 |
| *Compassion* | -.14 | .30** | .24 | .29** | .31** | -.17 | -.20 | -.15 | -.15 | -.13 | .00 |
| *Politeness* | -.05 | .23 | .19 | .21 | .25 | -.23 | -.32** | -.17 | -.20 | -.17 | .05 |
| Conscientiousness | -.28* | .38** | .27* | .38** | .42** | -.20 | -.13 | -.25 | -.16 | -.17 | -.20 |
| *Industriousness* | -.29** | .42** | .32** | .42** | .44** | -.20 | -.12 | -.32** | -.18 | -.16 | -.19 |
| *Orderliness* | -.20 | .24 | .15 | .23 | .29** | -.14 | -.11 | -.11 | -.10 | -.14 | -.15 |
| Job Satisfaction | -.64** | .74** | .71** | .69** | .67** | .01 | .01 | -.13 | -.01 | .08 | .05 |
| *Job In General* | .57** | -.50** | -.45** | -.49** | -.48** | .03 | .04 | .12 | .04 | -.06 | .01 |
| *People* | .13 | .06 | .05 | .05 | .08 | -.02 | -.05 | -.07 | .04 | .04 | .02 |
| *Work* | .47** | -.55** | -.54** | -.52** | -.49** | .02 | .03 | .10 | .03 | -.09 | .01 |
| *Pay* | .19 | -.08 | -.04 | -.08 | -.11 | -.06 | -.06 | -.03 | -.05 | -.11 | -.01 |
| *Promotions* | .37** | -.15 | -.12 | -.15 | -.14 | -.06 | -.08 | .05 | -.02 | -.04 | -.04 |

Table 20 – continued

*Intercorrelation Matrix of Aggression and Other Constructs*

| | IWAS-A | IWAS-V | Aggr. Full | Victim Full | Negative Affect | Positive Affect | Trait Anger | Emot. Stability | *Withdr.* | *Volat.* | Agree. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Supervisor* | -.22** | -.43** | -.22** | -.45** | -.32** | .31** | -.33** | -.27** | -.26** | -.24** | .23** |
| Org. Justice Perceptions | -.29** | -.53** | -.27** | -.54** | -.37** | .39** | -.35** | -.32** | -.33** | -.27** | .25** |
| *Distributive Justice* | -.25** | -.45** | -.25** | -.46** | -.30** | .35** | -.29** | -.29** | -.32** | -.23** | .24** |
| *Procedural Justice* | -.31** | -.53** | -.29** | -.54** | -.37** | .37** | -.39** | -.32** | -.32** | -.28** | .22** |
| *Interactional Justice* | -.26** | -.50** | -.23** | -.51** | -.36** | .37** | -.31** | -.29** | -.30** | -.25** | .25** |
| CWB | .71** | .54** | .72** | .53** | .27** | -.13 | .51** | .24** | .21** | .24** | -.27** |
| *Abuse* | .75** | .54** | .80** | .55** | .24** | -.07 | .48** | .26** | .20** | .29** | -.29** |
| *Production Deviance* | .35** | .36** | .36** | .33** | .25** | -.12 | .38** | .22** | .21** | .20** | -.15* |
| *Sabotage* | .30** | .21** | .34** | .19** | .23** | -.07 | .19** | .11 | .12 | .09 | -.08 |
| *Theft* | .27** | .21** | .27** | .20** | .13 | -.07 | .14* | .08 | .07 | .07 | -.15* |
| *Withdrawal* | .37** | .30** | .33** | .26** | .11 | -.11 | .32** | .08 | .10 | .05 | -.11 |

Table 20 – continued
*Intercorrelation Matrix of Aggression and Other Constructs*

| | *Comp.* | *Polite.* | Consc. | *Industr.* | *Order.* | Job Satis. | *Job in General* | *People* | *Work* | *Pay* | *Promot.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Supervisor* | .26** | .12 | .26** | .29** | .16* | .70** | .61** | .61** | .43** | .25** | .38** |
| Org. Justice Perceptions | .28** | .15* | .30** | .33** | .19** | .70** | .68** | .57** | .44** | .40** | .45** |
| *Distributive Justice* | .26** | .15* | .30** | .32** | .21** | .71** | .67** | .55** | .41** | .59** | .45** |
| *Procedural Justice* | .26** | .11 | .26** | .30** | .15* | .64** | .61** | .53** | .42** | .27** | .42** |
| *Interactional Justice* | .27** | .15* | .29** | .30** | .19** | .64** | .63** | .52** | .41** | .29** | .40** |
| CWB | -.19** | -.29** | -.13 | -.26** | .05 | -.24** | -.18** | -.29** | -.13 | -.07 | -.21** |
| *Abuse* | -.20** | -.32** | -.04 | -.18** | .11 | -.18** | -.14* | -.27** | -.08 | -.05 | -.15* |
| *Production Deviance* | -.15* | -.11 | -.13* | -.24** | .02 | -.24** | -.23** | -.27** | -.17* | -.05 | -.16* |
| *Sabotage* | -.01 | -.15* | -.11 | -.16* | -.02 | -.03 | -.04 | -.03 | -.02 | -.07 | .04 |
| *Theft* | -.08 | -.21** | -.13* | -.16* | -.07 | -.08 | -.02 | -.09 | -.03 | -.03 | -.08 |
| *Withdrawal* | -.09 | -.10 | -.11 | -.18** | .01 | -.18** | -.14* | -.17* | -.12 | -.04 | -.21** |

Table 20 – continued
*Intercorrelation Matrix of Aggression and Other Constructs*

| | *Superv.* | Org. Justice | *Distrib. Justice* | *Proced. Justice* | *Interact. Justice* | CWB | *Abuse* | *Produc. Dev.* | *Sabot.* | *Theft* | *Withdr.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Supervisor* | | -.57** | -.45** | -.58** | -.59** | .00 | .02 | .06 | .05 | -.01 | -.10 |
| Org. Justice Perceptions | .73** | | .90** | .96** | .95** | -.15 | -.14 | -.22 | -.16 | -.12 | -.01 |
| *Distributive Justice* | .59** | .88** | | .76** | .75** | -.12 | -.12 | -.21 | -.13 | -.05 | .00 |
| *Procedural Justice* | .74** | .96** | .73** | | .93** | -.18 | -.17 | -.22 | -.18 | -.16 | -.04 |
| *Interactional Justice* | .71** | .97** | .77** | .95** | | -.11 | -.11 | -.18 | -.13 | -.12 | .02 |
| CWB | -.21** | -.24** | -.18** | -.26** | -.22** | | .94** | .76** | .83** | .82** | .65** |
| *Abuse* | -.17* | -.16* | -.12 | -.19** | -.13* | .80** | | .61** | .76** | .71** | .42** |
| *Production Deviance* | -.25** | -.23** | -.18** | -.23** | -.22** | .63** | .37** | | .72** | .58** | .47** |
| *Sabotage* | -.01 | -.07 | -.08 | -.07 | -.05 | .43** | .25** | .33** | | .80** | .33** |
| *Theft* | -.10 | -.15* | -.11 | -.14* | -.17* | .58** | .29** | .27** | .30** | | .41** |
| *Withdrawal* | -.13 | -.17* | -.11 | -.20** | -.16* | .71** | .26** | .39** | .20** | .33** | |

*Notes*. Correlations above the diagonal are for the sample of aggression with intent to harm included ($N$ = 209); correlations below the diagonal are for aggression with no intent included ($N$ = 216). * = $p < .05$; ** = $p < .01$. Correlations between aggression and other constructs are presented in Table 3. Correlations are not corrected for unreliability.

Table 21
*Aggression Facet Validities*

| | Intent Items | | | | | |
|---|---|---|---|---|---|---|
| | Aggressor-Verbal | Victim-Verbal | Aggressor-Social Undermining | Victim-Social Undermining | Aggressor-Physical | Victim-Physical |
| Negative Affect | .22 (.25)** | .26 (.29)** | .26 (.30)** | .28 (.31)** | -.04 (-.04) | .08 (.12) |
| Positive Affect | -.07 (-.07) | .00 (.00) | -.12 (-.14) | -.09 (-.10) | -.03 (-.03) | .05 (.07) |
| Trait Anger | .31 (.35)** | .32 (.36)** | .33 (.40)** | .33 (.38)** | .19 (.21)** | .10 (.15) |
| Emotional Stability | .15 (.17)* | .16 (.17)* | .28 (.32)** | .25 (.28)** | .08 (.09) | .12 (.18) |
| *Withdrawal* | .18 (.20)** | .19 (.22)** | .30 (.35)** | .26 (.29)** | .08 (.09) | .08 (.13) |
| *Volatility* | .10 (.11) | .10 (.11) | .22 (.26)** | .21 (.23)** | .07 (.07) | .14 (.22)* |
| Agreeableness | -.12 (-.13) | -.01 (-.01) | -.14 (-.17)* | -.06 (-.07) | -.14 (-.15)* | -.14 (-.21)* |
| *Compassion* | -.01 (-.01) | .07 (.07) | -.07 (-.08) | -.01 (-.01) | -.08 (-.09) | -.01 (-.01) |
| *Politeness* | -.21 (-.25)** | -.10 (-.12) | -.19 (-.24)** | -.11 (-.13) | -.18 (-.20)* | -.25 (-.41)** |
| Conscientiousness | -.13 (-.14) | -.01 (-.01) | -.18 (-.21)* | -.14 (-.16)* | -.10 (-.11) | -.05 (-.07) |
| *Industriousness* | -.17 (-.19)* | -.08 (-.09) | -.26 (-.31)** | -.21 (-.23)** | -.09 (-.10) | -.09 (-.13) |
| *Orderliness* | -.05 (-.05) | .08 (.09) | -.03 (-.04) | -.03 (-.03) | -.09 (-.10) | .01 (.02) |
| Job Satisfaction | -.19 (-.21)** | -.27 (-.30)** | -.16 (-.19)* | -.27 (-.30)** | -.04 (-.04) | .05 (.08) |
| *Job in General* | .23 (.28)** | .18 (.22)** | .23 (.29)** | .20 (.24)** | .16 (.19)* | .02 (.03) |
| *People* | -.08 (-.11) | -.16 (-.21)* | .00 (.00) | -.09 (-.12) | .02 (.03) | -.05 (-.10) |
| *Work* | .24 (.30)** | .22 (.26)** | .24 (.30)** | .24 (.29)** | .09 (.11) | -.03 (-.04) |
| *Pay* | .14 (.17)* | .06 (.07) | .07 (.08) | .01 (.01) | .14 (.16)* | .07 (.12) |
| *Promotions* | .07 (.09) | .06 (.07) | .06 (.07) | .02 (.03) | .06 (.07) | -.11 (-.18) |
| *Supervisor* | .20 (.24)** | .23 (.28)** | .18 (.23)** | .20 (.25)** | .04 (.05) | .02 (.03) |

Table 21 – continued
*Aggression Facet Validities*

| | Aggressor-Verbal | Victim-Verbal | Agg.-Social Undermining | Victim-Social Undermining | Aggressor-Physical | Victim-Physical |
|---|---|---|---|---|---|---|
| Org. Justice Perceptions | -.25 (-.27)** | -.35 (-.38)** | -.16 (-.19)* | -.37 (-.40)** | -.07 (-.07) | -.04 (-.06) |
| *Distributive Justice* | -.20 (-.23)** | -.30 (-.33)** | -.13 (-.15) | -.32 (-.36)** | -.04 (-.04) | -.01 (-.02) |
| *Procedural Justice* | -.27 (-.31)** | -.39 (-.43)** | -.19 (-.23)** | -.40 (-.45)** | -.07 (-.07) | -.03 (-.05) |
| *Interactional Justice* | -.22 (-.24)** | -.30 (-.32)** | -.14 (-.16)* | -.31 (-.34)** | -.09 (-.09) | -.07 (-.11) |
| CWB | .23 (.26)** | .23 (.24)** | .28 (.32)** | .20 (.22)** | -.01 (-.01) | .09 (.14) |
| *Abuse* | .28 (.31)** | .24 (.26)** | .27 (.32)** | .19 (.22)** | .01 (.01) | .15 (.22)* |
| *Production Deviance* | .13 (.16) | .19 (.23)** | .25 (.33)** | .24 (.30)** | -.01 (-.02) | -.01 (-.02) |
| *Sabotage* | .11 (.14) | .13 (.16) | .13 (.17) | .09 (.11) | .01 (.01) | .08 (.13) |
| *Theft* | .07 (.09) | .10 (.12) | .14 (.17) | .07 (.09) | .01 (.01) | .13 (.21) |
| *Withdrawal* | .14 (.17)* | .15 (.17)* | .22 (.27)** | .16 (.19)* | -.07 (-.08) | -.06 (-.10) |
| | | | No Intent Items | | | |
| Negative Affect | .32 (.37)** | .47 (.52)** | .28 (.36)** | .46 (.53)** | .18 (.27)** | .10 (.14) |
| Positive Affect | -.10 (-.12) | -.13 (-.14) | -.06 (-.08) | -.17 (-.19)* | -.10 (-.15) | .08 (.10) |
| Trait Anger | .52 (.60)** | .47 (.52)** | .43 (.54)** | .42 (.49)** | .22 (.32)** | .07 (.09) |
| Emotional Stability | .32 (.36)** | .32 (.35)** | .27 (.33)** | .28 (.32)** | .18 (.26)** | .07 (.09) |
| *Withdrawal* | .25 (.30)** | .33 (.37)** | .23 (.29)** | .28 (.33)** | .13 (.20)* | .09 (.12) |
| *Volatility* | .34 (.40)** | .28 (.31)** | .28 (.34)** | .25 (.29)** | .20 (.30)** | .04 (.05) |
| Agreeableness | -.29 (-.34)** | -.22 (-.25)** | -.28 (-.35)** | -.20 (-.23)** | -.26 (-.39)** | -.05 (-.07) |
| *Compassion* | -.16 (-.18)* | -.16 (-.18)* | -.19 (-.23)** | -.14 (-.16)* | -.15 (-.22)* | -.00 (.00) |
| *Politeness* | -.38 (-.49)** | -.24 (-.29)** | -.32 (-.44)** | -.22 (-.28)** | -.33 (-.54)** | -.10 (-.14) |

Table 21 – continued
*Aggression Facet Validities*

| | Aggressor-Verbal | Victim-Verbal | Agg.-Social Undermining | Victim-Social Undermining | Aggressor-Physical | Victim-Physical |
|---|---|---|---|---|---|---|
| Conscientiousness | -.19 (-.22)** | -.17 (-.19)* | -.13 (-.16) | -.12 (-.15) | -.12 (-.19) | -.03 (-.04) |
| *Industriousness* | -.27 (-.32)** | -.27 (-.30)** | -.23 (-.30)** | -.21 (-.25)** | -.14 (-.22)* | -.06 (-.08) |
| *Orderliness* | -.05 (-.06) | -.02 (-.02) | .02 (.03) | .01 (.01) | -.07 (-.11) | .01 (.01) |
| Job Satisfaction | -.31 (-.36)** | -.45 (-.49)** | -.26 (-.32)** | -.44 (-.51)** | -.08 (-.11) | -.12 (-.15) |
| *Job in General* | -.25 (-.29)** | -.40 (-.45)** | -.20 (-.25)** | -.40 (-.46)** | -.07 (-.11) | -.08 (-.10) |
| *People* | -.30 (-.36)** | -.45 (-.52)** | -.31 (-.40)** | -.46 (-.56)** | -.08 (-.12) | -.06 (-.08) |
| *Work* | -.22 (-.26)** | -.19 (-.21)** | -.16 (-.20)* | -.19 (-.22)** | -.07 (-.10) | -.02 (-.03) |
| *Pay* | -.16 (-.19)* | -.31 (-.35)** | -.11 (-.14) | -.29 (-.34)** | -.03 (-.04) | -.17 (-.23)* |
| *Promotions* | -.32 (-.36)** | -.33 (-.37)** | -.24 (-.29)** | -.30 (-.34)** | -.07 (-.10) | -.09 (-.12) |
| *Supervisor* | -.18 (-.22)** | -.42 (-.48)** | -.20 (-.26)** | -.43 (-.52)** | -.04 (-.06) | -.12 (-.16) |
| Org. Justice Perc. | -.24 (-.27)** | -.51 (-.55)** | -.26 (-.31)** | -.55 (-.62)** | -.04 (-.06) | -.09 (-.11) |
| *Distributive Justice* | -.20 (-.23)** | -.44 (-.50)** | -.23 (-.28)** | -.48 (-.56)** | -.08 (-.12) | -.13 (-.17) |
| *Procedural Justice* | -.27 (-.31)** | -.51 (-.56)** | -.26 (-.32)** | -.55 (-.63)** | -.02 (-.04) | -.06 (-.08) |
| *Interactional Justice* | -.22 (-.24)** | -.47 (-.51)** | -.23 (-.28)** | -.53 (-.60)** | -.02 (-.02) | -.06 (-.08) |
| CWB | .68 (.83)** | .54 (.63)** | .65 (.86)** | .48 (.59)** | .27 (.43)** | .03 (.04) |
| *Abuse* | .74 (.93)** | .56 (.68)** | .69 (.93)** | .43 (.54)** | .28 (.46)** | .01 (.02) |
| *Production Deviance* | .32 (.46)** | .34 (.47)** | .32 (.50)** | .33 (.47)** | .05 (.10) | .03 (.04) |
| *Sabotage* | .30 (1.01)** | .19 (.61)** | .24 (.90)** | .21 (.70)** | .28 (1.25)** | .03 (.12) |
| *Theft* | .24 (.35)** | .19 (.27)** | .29 (.46)** | .23 (.33)** | .21 (.39)** | -.01 (-.01) |
| *Withdrawal* | .35 (.46)** | .28 (.35)** | .33 (.46)** | .29 (.38)** | .10 (.17) | .03 (.05) |

*Notes* * = $p < .05$; ** = $p < .01$. Significance values apply to both uncorrected and corrected correlations. Intent condition $N = 209$; No intent condition $N = 216$. Correlations outside parentheses are uncorrected; correlations inside parentheses are corrected for unreliability in both variables.

Table 22
*IWAS Facet Intercorrelation Matrix*

| | IWAS-A | IWAS-V | Agg.-Full | Vic.-Full | Agg.-Verbal | Vic.-Verbal | Agg.-Social Undermining | Vic.-Social Undermining | Agg.-Physical | Vic.-Physical |
|---|---|---|---|---|---|---|---|---|---|---|
| IWAS-A | | .69** | .98** | .71** | .96** | .65** | .91** | .63** | .53** | .44** |
| IWAS-V | .65** | | .71** | .98** | .67** | .97** | .63** | .94** | .30** | .31** |
| Agg.-Full | .96** | .66** | | .74** | .95** | .68** | .89** | .65** | .56** | .46** |
| Vic.-Full | .62** | .98** | .65** | | .69** | .97** | .65** | .91** | .31** | .31** |
| Agg.-Verbal | .95** | .59** | .91** | .56** | | .65** | .78** | .59** | .49** | .43** |
| Vic.-Verbal | .62** | .97** | .64** | .96** | .58** | | .58** | .85** | .25** | .25** |
| Agg.-S.U. | .88** | .59** | .87** | .57** | .73** | .55** | | .62** | .43** | .37** |
| Vic.-S.U. Undermining | .60** | .93** | .59** | .91** | .52** | .84** | .57** | | .30** | .23** |
| Agg.-Physical | .50** | .24** | .52** | .22** | .43** | .21** | .41** | .27** | | .47** |
| Vic.-Physical | 0.06 | .20** | 0.08 | .17* | 0.07 | .21** | 0 | 0.11 | .14* | |

*Notes.* S.U. = Social Undermining. Correlations above the diagonal are for the sample of aggression with intent to harm included ($N$ = 209); correlations below the diagonal are for aggression with no intent included ($N$ = 216). All correlations were significant at the .01 alpha level. Correlations are not corrected for unreliability.

Table 23
*Predicting Enacted Aggression (IWAS-A): Regression and Relative Importance Analysis*

| | Intent Condition | | | | | |
|---|---|---|---|---|---|---|
| | Model 1, *N* = 207 | | | Model 2, *N* = 207 | | |
| Predictor | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) |
| Age | .00 | .00 | 0.8% | .00 | .00 | 2.7% |
| Gender (Male) | .00 | .00 | 0.5% | .04 | .01 | 3.3% |
| IWAS-V | .42** | .39 | 77.9% | -- | -- | -- |
| Negative Affect | .01 | .02 | 3.2% | .04 | .03 | 16.4% |
| Positive Affect | -.01 | .00 | 0.5% | .00 | .00 | 1.1% |
| Trait Anger | .02 | .04 | 8.4% | .07** | .07 | 44.8% |
| Emotional Stability | -.02 | .01 | 1.9% | -.04 | .01 | 8.1% |
| Agreeableness | -.01 | .00 | 0.9% | .01 | .00 | 2.2% |
| Conscientiousness | -.02 | .01 | 1.3% | -.01 | .01 | 3.1% |
| Job Satisfaction | .00 | .01 | 1.5% | .01 | .01 | 5.7% |
| Org. Justice Perceptions | .03 | .02 | 3.0% | -.04 | .02 | 12.4% |
| Model Adjusted *R*2 | .48 | | | .12 | | |
| Model *F*-statistic | 18.15** | | | 3.74** | | |

Table 23 – continued

*Predicting Enacted Aggression (IWAS-A): Regression and Relative Importance Analysis*

| | No Intent Condition | | | | | |
|---|---|---|---|---|---|---|
| | Model 1, *N* = 214 | | | Model 2, *N* = 214 | | |
| Predictor | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) |
| Age | .00 | .00 | 0.1% | .00 | .00 | 0.2% |
| Gender (Male) | .00 | .00 | 0.2% | .00 | .00 | 0.4% |
| IWAS-V | .39** | .25 | 46.0% | -- | -- | -- |
| Negative Affect | -.01 | .03 | 5.2% | .04 | .04 | 10.3% |
| Positive Affect | .01 | .00 | 0.8% | .03 | .01 | 2% |
| Trait Anger | .10** | .13 | 24.3% | .15** | .17 | 47.6% |
| Emotional Stability | -.02 | .03 | 5.2% | -.04 | .03 | 9.2% |
| Agreeableness | -.04* | .04 | 6.9% | -.06** | .05 | 12.3% |
| Conscientiousness | -.03 | .01 | 1.5% | -.02 | .01 | 2.1% |
| Job Satisfaction | -.03 | .03 | 5.1% | -.04 | .04 | 9.8% |
| Org. Justice Perceptions | .07** | .03 | 4.7% | .00 | .02 | 6.1% |
| Model Adjusted *R*2 | .51 | | | .34 | | |
| Model *F*-statistic | 21.22** | | | 11.81** | | |

*Notes*. Model 1 contains all predictors, whereas Model 2 removes the reverse perspective of aggression and examines all other predictors.

Table 24
*Predicting Experienced Aggression (IWAS-V): Regression and Relative Importance Analysis*

| | Intent Condition | | | | | |
|---|---|---|---|---|---|---|
| | Model 1, *N* = 207 | | | Model 2, *N* = 207 | | |
| Predictor | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) |
| Age | .00 | .00 | 0.2% | .00 | .00 | 0.3% |
| Gender (Male) | .04 | .00 | 0.7% | .08 | .01 | 2.5% |
| IWAS-A | .99** | .37 | 64.5% | -- | -- | -- |
| Negative Affect | .04 | .03 | 4.7% | .07* | .04 | 14.1% |
| Positive Affect | .03 | .01 | 1.2% | .03 | .01 | 2.9% |
| Trait Anger | .05* | .05 | 7.9% | .12** | .07 | 26.7% |
| Emotional Stability | -.01 | .01 | 1.8% | -.05 | .01 | 5.1% |
| Agreeableness | .05* | .01 | 1.3% | .06* | .01 | 3.1% |
| Conscientiousness | .03 | .00 | 0.9% | .02 | .00 | 1.3% |
| Job Satisfaction | .02 | .02 | 4.1% | .03 | .03 | 10.2% |
| Org. Justice Perceptions | -.12** | .07 | 12.7% | -.16** | .09 | 33.8% |
| Model Adjusted *R*2 | .55 | | | .24 | | |
| Model *F*-statistic | 23.72** | | | 7.36** | | |

Table 24 – continued

*Predicting Experienced Aggression (IWAS-V): Regression and Relative Importance Analysis*

| | No Intent Condition | | | | | |
|---|---|---|---|---|---|---|
| | Model 1, *N* = 214 | | | Model 2, *N* = 214 | | |
| Predictor | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) |
| Age | .00 | .00 | 0.1% | .00 | .00 | 0.2% |
| Gender (Male) | -.01 | .00 | 0.3% | -.01 | .00 | 0.4% |
| IWAS-A | .69** | .22 | 36.9% | -- | -- | -- |
| Negative Affect | .11** | .09 | 14.2% | .14** | .10 | 22.3% |
| Positive Affect | .03 | .01 | 1.2% | .06* | .01 | 2.3% |
| Trait Anger | .01 | .06 | 10.6% | .11** | .09 | 20.2% |
| Emotional Stability | -.03 | .02 | 3.6% | -.06 | .03 | 5.8% |
| Agreeableness | .00 | .01 | 1.5% | -.04 | .01 | 2.7% |
| Conscientiousness | .04 | .01 | 1.0% | .03 | .01 | 1.4% |
| Job Satisfaction | .00 | .06 | 9.4% | -.03 | .07 | 14.7% |
| Org. Justice Perceptions | -.17** | .13 | 21.1% | -.17** | .14 | 30.0% |
| Model Adjusted *R*2 | .59 | | | .47 | | |
| Model *F*-statistic | 28.60** | | | 17.80** | | |

*Notes*. Model 1 contains all predictors, whereas Model 2 removes the reverse perspective of aggression and examines all other predictors.

Table 25

*Intentional Workplace Aggression Scale (IWAS) Item Means- Korean Version*

| Item | Intent *M* | No Intent *M* |
|---|---|---|
| I have given someone the silent treatment with the intent of harming them | 1.53 | 1.57 |
| I have avoided another person with the intent of harming them | 1.50 | 1.55 |
| I have interrupted another person when they were speaking or working with the intent of harming them | 1.45 | 1.82 |
| I have talked behind someone's back or spread rumors about someone with the intent of harming them | 1.44 | 1.58 |
| I have insulted or criticized another with the intent of harming them | 1.43 | 1.55 |
| I have lied to another person with the intent of harming them | 1.40 | 1.55 |
| I have devalued someone's work and efforts with the intent of harming them | 1.35 | 1.40 |
| I have reprimanded or put down someone in front of others with the intent of harming them | 1.35 | 1.48 |
| I have neglected someone's opinions with the intent of harming them | 1.33 | 1.42 |
| I have used derogatory name calling toward someone with the intent of harming them | 1.32 | 1.32 |
| I have made fun of someone with the intent of harming them | 1.28 | 1.37 |
| I have yelled at or raised my voice at someone with the intent of harming them | 1.28 | 1.40 |
| I have treated someone in a condescending manner with the intent of harming them | 1.26 | 1.34 |
| I have verbally abused another person with the intent of harming them | 1.25 | 1.32 |
| I have sabotaged someone's work with the intent of harming them | 1.22 | 1.41 |
| I have delayed action on matters that were important to someone with the intent of harming them | 1.21 | 1.31 |
| I have given unwanted sexual attention to someone with the intent of harming them | 1.19 | 1.24 |
| I have exploited someone at work with the intent of harming them | 1.17 | 1.20 |
| I have physically abused someone with intent to harm them | 1.09 | 1.10 |
| I have used threats of physical abuse towards someone with the intent of harming them | 1.06 | 1.07 |

*Notes.* This table represents the final scale of 20-items comprising the IWAS-A. Intent and no intent means are averaged across victim and aggressor perspectives. Items in the "Item" column are the item stem with intent to harm included and from the aggressor perspective. To obtain the "no intent" item simply remove the phrase "with intent to harm" on the end. All responses are on a scale of 1 (*Never*), 2 (*Once or Twice*), 3 (*About Once a Month*), 4 (*About Once a Week*), or 5 (*Daily)*. Intent condition $N = 118$. No intent condition $N = 115$.

Table 26

*Mean Differences for Aggression Measures Across Intent to Harm and Response Perspective*

| | **Intentional Workplace Aggression Scale (IWAS)- Korean Version** | | |
|---|---|---|---|
| | Intent | No Intent | Intent Condition *d* |
| *N* | 118 | 115 | 233 |
| Aggressor *M (SD)* | 1.28 (*.33*) | 1.41 (*.35*) | .35 |
| Victim *M (SD)* | 1.32 (*.39*) | 1.40 (*.39*) | .19 |
| Aggressor - Victim *d* | .09 | -.03 | -- |

*Notes.* Final scale contains 20 items. All responses are on a scale of 1 (*Never*), 2 (*Once or Twice*), 3 (*About Once a Month*), 4 (*About Once a Week*), or 5 (*Daily*).

Table 27
*Internal Consistency Reliability for All Scales Included- Korean Replication*

| | | Intent Condition | No Intent Condition |
|---|---|---|---|
| | # of Items | Cronbach's α | Cronbach's α |
| IWAS-A | 20 | .92 | .91 |
| *IWAS-A: Verbal* | 10 | .88 | .86 |
| *IWAS-A: Social Undermining* | 6 | .76 | .81 |
| *IWAS-A: Physical* | 2 | .70 | .62 |
| IWAS-V | 20 | .95 | .92 |
| *IWAS-V: Verbal* | 10 | .93 | .89 |
| *IWAS-V: Social Undermining* | 6 | .85 | .83 |
| *IWAS-V: Physical* | 2 | .81 | .71 |
| Negative Affect | 10 | .94 | .91 |
| Positive Affect | 10 | .87 | .86 |
| Trait Anger | 15 | .92 | .92 |
| Emotional Stability | 20 | .91 | .92 |
| *Withdrawal* | 10 | .82 | .83 |
| *Volatility* | 10 | .85 | .86 |
| Agreeableness | 20 | .81 | .82 |
| *Compassion* | 10 | .81 | .83 |
| *Politeness* | 10 | .59 | .61 |
| Conscientiousness | 20 | .87 | .91 |
| *Industriousness* | 10 | .81 | .86 |
| *Orderliness* | 10 | .80 | .86 |
| Job Satisfaction | 38 | .90 | .91 |
| *Job in General* | 8 | .86 | .85 |
| *People* | 6 | .65 | .81 |
| *Work* | 6 | .85 | .86 |
| *Pay* | 6 | .71 | .77 |
| *Promotions* | 6 | .41 | .64 |
| *Supervisor* | 6 | .73 | .73 |
| Org. Justice Perceptions | 20 | .98 | .97 |
| *Distributive Justice* | 5 | .93 | .92 |
| *Procedural Justice* | 6 | .94 | .90 |

Table 27 – continued

*Internal Consistency Reliability for All Scales Included- Korean Replication*

| | | Intent Condition | No Intent Condition |
|---|---|---|---|
| | # of Items | Cronbach's α | Cronbach's α |
| | *Interactional Justice* | 9 | .98 | .98 |
| CWB | | 32 | .96 | .98 |
| | *Abuse* | 17 | .95 | .98 |
| | *Production Deviance* | 3 | .66 | .70 |
| | *Sabotage* | 3 | .77 | .74 |
| | *Theft* | 5 | .82 | .89 |
| | *Withdrawal* | 4 | .65 | .77 |

*Notes.* Intent to harm condition $N = 118$; No intent to harm condition $N = 115$.

Table 28
*IWAS Correlates Across Intent Conditions- Korean Replication*

| | Intentional Workplace Aggression Scale Correlations (20 items) | | | |
|---|---|---|---|---|
| | Intent Aggressor | No Intent Aggressor | Intent Victim | No Intent Victim |
| Negative Affect | .40 (.43)** | .50 (.55)** | .36 (.38)** | .41 (.45)** |
| Positive Affect | .11 (.12) | -.03 (-.03) | .09 (.10) | .07 (.08) |
| Trait Anger | .40 (.44)** | .38 (.41)** | .30 (.32)** | .51 (.55)** |
| Emotional Stability | -.35 (-.38)** | -.30 (-.33)** | -.26 (-.28)** | -.29 (-.32)** |
| *Withdrawal* | -.31 (-.36)** | -.27 (-.31)** | -.25 (-.28)* | -.24 (-.27)* |
| *Volatility* | -.34 (-.38)** | -.30 (-.34)** | -.24 (-.27)* | -.30 (-.34)** |
| Agreeableness | -.12 (-.14) | -.39 (-.45)** | -.01 (-.01) | -.34 (-.39)** |
| *Compassion* | -.11 (-.13) | -.31 (-.36)** | -.02 (-.02) | -.29 (-.33)** |
| *Politeness* | -.08 (-.11) | -.36 (-.48)** | .00 (.00) | -.29 (-.39)** |
| Conscientiousness | -.22 (-.25)* | -.30 (-.33)** | -.11 (-.12) | -.14 (-.15) |
| *Industriousness* | -.22 (-.26)* | -.28 (-.32)** | -.13 (-.15) | -.12 (-.14) |
| *Orderliness* | -.18 (-.21) | -.28 (-.32)** | -.08 (-.09) | -.14 (-.16) |
| Job Satisfaction | -.16 (-.18) | -.02 (-.02) | -.20 (-.22)* | -.05 (-.05) |
| *Job in General* | -.20 (-.22)* | -.11 (-.12) | -.15 (-.17) | -.07 (-.08) |
| *People* | -.19 (-.25) | -.03 (-.03) | -.19 (-.24)* | -.01 (-.01) |
| *Work* | -.17 (-.19) | -.06 (-.07) | -.20 (-.22)* | -.13 (-.15) |
| *Pay* | .06 (.07) | -.04 (-.05) | -.10 (-.12) | -.02 (-.02) |
| *Promotions* | .01 (.02) | -.11 (-.14) | -.04 (-.06) | -.18 (-.23) |
| *Supervisor* | -.13 (-.16) | -.04 (-.05) | -.09 (-.11) | .00 (.00) |
| Org. Justice Perceptions | -.09 (-.09) | -.12 (-.13) | -.07 (-.07) | -.25 (-.26)** |

Table 28 – continued
*IWAS Correlates Across Intent Conditions- Korean Replication*

| | | Intent Aggressor | No Intent Aggressor | Intent Victim | No Intent Victim |
|---|---|---|---|---|---|
| | *Distributive Justice* | -.05 (-.05) | -.07 (-.08) | -.01 (-.01) | -.29 (-.31)** |
| | *Procedural Justice* | -.11 (-.12) | -.10 (-.11) | -.09 (-.10) | -.19 (-.21)* |
| | *Interactional Justice* | -.09 (-.09) | -.15 (-.16) | -.09 (-.09) | -.21 (-.22)* |
| CWB | | .36 (.38)** | .32 (.34)** | .23 (.24)* | .25 (.26)* |
| | *Abuse* | .35 (.37)** | .28 (.30)** | .26 (.27)** | .22 (.23)* |
| | *Production Deviance* | .36 (.46)** | .26 (.33)** | .16 (.20) | .17 (.21) |
| | *Sabotage* | .17 (.20) | .25 (.30)* | .03 (.04) | .23 (.28)* |
| | *Theft* | .21 (.24)* | .26 (.29)* | .15 (.17) | .19 (.21) |
| | *Withdrawal* | .39 (.51)** | .30 (.36)** | .28 (.36)** | .22 (.26)* |

*Notes*. Pairwise *N* ranged from 101 to 118 for the intent condition. Pairwise *N* ranged from 96 to 115 for the no intent condition. * = $p < .05$; ** = $p < .01$. Significance values apply to both uncorrected and corrected correlations. Correlations outside parentheses are uncorrected; correlations inside parentheses are corrected for unreliability in both variables.

Table 29

*Intercorrelation Matrix of Aggression and Other Constructs- Korean Replication*

| | IWAS-A | IWAS-V | Neg. Affect | Pos. Affect | Trait Anger | Emot. Stability | *Withdr.* | *Volat.* | Agree. | *Comp.* | *Polite.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IWAS-A | | .69** | .40** | .11 | .40** | -.35 | -.31 | -.34 | -.12 | -.11 | -.08 |
| IWAS-V | .57** | | .36* | .09 | .30 | -.26 | -.25 | -.24 | -.01 | -.02 | .00 |
| Negative Affect | .50** | .41** | | .24 | .45** | -.64** | -.65** | -.55** | -.27 | -.28 | -.18 |
| Positive Affect | -.03 | .07 | .01 | | .01 | .18 | .15 | .18 | .15 | .27 | -.04 |
| Trait Anger | .38** | .51** | .33** | .03 | | -.57** | -.48** | -.59** | -.35 | -.32 | -.28 |
| Emotional Stability | -.30** | -.29** | -.60** | .35** | -.51** | | .94** | .94** | .57** | .62** | .35 |
| *Withdrawal* | -.27** | -.24* | -.59** | .35** | -.41** | .95** | | .77** | .50** | .53** | .32 |
| *Volatility* | -.30** | -.30** | -.55** | .31** | -.55** | .95** | .81** | | .57** | .63** | .33 |
| Agreeableness | -.39** | -.34** | -.43** | .35** | -.41** | .74** | .73** | .68** | | .89** | .84** |
| *Compassion* | -.31** | -.29** | -.37** | .36** | -.43** | .69** | .67** | .65** | .90** | | .50** |
| *Politeness* | -.36** | -.29** | -.37** | .23* | -.27** | .57** | .59** | .50** | .83** | .50** | |
| Conscientiousness | -.30** | -.14 | -.37** | .40** | -.34** | .68** | .67** | .63** | .68** | .67** | .49** |
| *Industriousness* | -.28** | -.12 | -.39** | .44** | -.36** | .75** | .74** | .69** | .69** | .68** | .50** |
| *Orderliness* | -.28** | -.14 | -.30** | .29** | -.27** | .52** | .51** | .48** | .58** | .56** | .42** |
| Job Satisfaction | -.02 | -.05 | -.28** | .41** | -.21* | .32** | .34** | .26** | .35** | .44** | .14 |
| *Job In General* | -.11 | -.07 | -.25* | .43** | -.18 | .40** | .42** | .34** | .44** | .41** | .34** |
| *People* | -.03 | -.01 | -.18 | .28** | -.16 | .21* | .24* | .17 | .29** | .35** | .12 |
| *Work* | -.06 | -.13 | -.30** | .39** | -.27** | .39** | .38** | .35** | .34** | .38** | .19* |
| *Pay* | -.04 | -.02 | -.08 | .28** | -.09 | .05 | .03 | .06 | .11 | .16 | .01 |
| *Promotions* | -.11 | -.18 | -.25* | .07 | -.14 | .17 | .19 | .13 | .24* | .33** | .06 |
| *Supervisor* | -.04 | .00 | -.26** | .17 | -.07 | .14 | .18 | .09 | .07 | .17 | -.08 |

Table 29 – continued

*Intercorrelation Matrix of Aggression and Other Constructs- Korean Replication*

| | Consc. | *Industr.* | *Order.* | Job Satis. | *Job in General* | *People* | *Work* | *Pay* | *Promot.* | *Superv.* | Org. Justice |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IWAS-A | -.22 | -.22 | -.18 | -.16 | -.20 | -.19 | -.17 | .06 | .01 | -.13 | -.09 |
| IWAS-V | -.11 | -.13 | -.08 | -.20 | -.15 | -.19 | -.20 | -.10 | -.04 | -.09 | -.07 |
| Negative Affect | -.28 | -.40** | -.11 | -.39* | -.46** | -.13 | -.39* | -.15 | -.17 | -.24 | -.08 |
| Positive Affect | .09 | .06 | .11 | .24 | .20 | .20 | .16 | .08 | .17 | .13 | .33 |
| Trait Anger | -.27 | -.35 | -.14 | -.33 | -.43** | -.20 | -.38* | .00 | -.16 | -.12 | -.09 |
| Emotional Stability | .52** | .62** | .33 | .48** | .53** | .23 | .52** | .13 | .22 | .21 | .33 |
| *Withdrawal* | .53** | .65** | .34 | .48** | .54** | .24 | .50** | .15 | .18 | .21 | .30 |
| *Volatility* | .44** | .53** | .29 | .43** | .45** | .19 | .47** | .11 | .24 | .18 | .32 |
| Agreeableness | .68** | .68** | .56** | .22 | .22 | .14 | .21 | .03 | .12 | .12 | .24 |
| *Compassion* | .57** | .57** | .47** | .28 | .25 | .13 | .29 | .03 | .17 | .19 | .26 |
| *Politeness* | .61** | .60** | .51** | .09 | .12 | .12 | .06 | .02 | .02 | .00 | .14 |
| Conscientiousness | | .90** | .92** | .23 | .34 | .18 | .20 | -.02 | .07 | .08 | .21 |
| *Industriousness* | .93** | | .66** | .32 | .40** | .19 | .32 | .04 | .11 | .13 | .22 |
| *Orderliness* | .93** | .72** | | .11 | .23 | .13 | .06 | -.08 | .03 | .02 | .16 |
| Job Satisfaction | .31** | .37** | .20* | | .78** | .66** | .83** | .63** | .53** | .65** | .36* |
| *Job In General* | .31** | .41** | .18 | .77** | | .48** | .76** | .31 | .19 | .26 | .19 |
| *People* | .22* | .26** | .14 | .74** | .59** | | .42** | .21 | .09 | .54** | .23 |
| *Work* | .27** | .39** | .12 | .75** | .68** | .50** | | .41** | .29 | .34 | .14 |
| *Pay* | .16 | .18 | .13 | .63** | .33** | .31** | .34** | | .44** | .28 | .29 |
| *Promotions* | .21* | .18 | .21* | .54** | .19 | .27** | .16 | .35** | | .33 | .26 |
| *Supervisor* | .15 | .13 | .14 | .64** | .37** | .45** | .35** | .30** | .32** | | .36 |

Table 29 – continued

*Intercorrelation Matrix of Aggression and Other Constructs- Korean Replication*

| | *Distrib. Justice* | *Interact. Justice* | *Proced. Justice* | CWB | *Abuse* | *Produc. Dev.* | *Sabot.* | *Theft* | *Withdr.* |
|---|---|---|---|---|---|---|---|---|---|
| IWAS-A | -.05 | -.09 | -.11 | .36 | .35 | .36 | .17 | .21 | .39* |
| IWAS-V | -.01 | -.09 | -.09 | .23 | .26 | .16 | .03 | .15 | .28 |
| Negative Affect | -.05 | -.06 | -.10 | .15 | .11 | .18 | .18 | .08 | .15 |
| Positive Affect | .35 | .28 | .28 | -.02 | -.02 | -.03 | -.10 | -.07 | .11 |
| Trait Anger | -.08 | -.07 | -.10 | .14 | .07 | .14 | .12 | .07 | .30 |
| Emotional Stability | .34 | .28 | .30 | -.16 | -.12 | -.16 | -.23 | -.09 | -.15 |
| *Withdrawal* | .34 | .22 | .27 | -.18 | -.14 | -.18 | -.26 | -.12 | -.11 |
| *Volatility* | .30 | .30 | .28 | -.12 | -.08 | -.13 | -.17 | -.05 | -.16 |
| Agreeableness | .32 | .17 | .17 | -.20 | -.15 | -.25 | -.43** | -.08 | -.07 |
| *Compassion* | .33 | .20 | .19 | -.18 | -.14 | -.22 | -.34 | -.05 | -.09 |
| *Politeness* | .21 | .09 | .10 | -.17 | -.12 | -.20 | -.41** | -.10 | -.02 |
| Conscientiousness | .28 | .16 | .15 | -.26 | -.21 | -.24 | -.45** | -.25 | -.06 |
| *Industriousness* | .27 | .17 | .18 | -.18 | -.12 | -.19 | -.38* | -.16 | -.04 |
| *Orderliness* | .24 | .11 | .10 | -.30 | -.26 | -.24 | -.44** | -.29 | -.06 |
| Job Satisfaction | .38* | .31 | .30 | -.13 | -.14 | -.09 | -.19 | -.04 | -.09 |
| *Job in General* | .27 | .13 | .13 | -.12 | -.10 | -.08 | -.28 | -.04 | -.07 |
| *People* | .22 | .22 | .18 | -.12 | -.09 | -.12 | -.14 | -.06 | -.13 |
| *Work* | .19 | .12 | .10 | -.06 | -.07 | -.05 | -.12 | .05 | -.07 |
| *Pay* | .32 | .21 | .26 | -.01 | -.05 | .04 | -.04 | .02 | .06 |
| *Promotions* | .30 | .18 | .23 | -.05 | -.05 | -.04 | -.04 | -.05 | -.01 |
| *Supervisor* | .26 | .38* | .34 | -.17 | -.20 | -.11 | -.08 | -.11 | -.14 |

Table 29 – continued

*Intercorrelation Matrix of Aggression and Other Constructs- Korean Replication*

| | IWAS-A | IWAS-V | Negative Affect | Positive Affect | Trait Anger | Emot. Stability | *Withdr.* | *Volat.* | Agree. | *Comp.* | *Polite.* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Org. Justice Perceptions | -.12 | -.25** | -.33** | .17 | -.16 | .27** | .25* | .26** | .33** | .38** | .15 |
| *Distributive Justice* | -.07 | -.29** | -.27** | .23* | -.21* | .28** | .28** | .25** | .39** | .39** | .26** |
| *Procedural Justice* | -.10 | -.19* | -.28** | .11 | -.11 | .17 | .17 | .17 | .23* | .32** | .05 |
| *Interactional Justice* | -.15 | -.21* | -.34** | .11 | -.11 | .27** | .23* | .28** | .26** | .33** | .10 |
| CWB | .32** | .25* | .26** | -.06 | .23* | -.24* | -.21* | -.26* | -.21* | -.17 | -.21* |
| *Abuse* | .28** | .22* | .18 | -.03 | .20 | -.19 | -.15 | -.21* | -.19 | -.13 | -.20 |
| *Production Deviance* | .26** | .17 | .25* | -.11 | .17 | -.24* | -.22* | -.23* | -.20* | -.15 | -.21* |
| *Sabotage* | .25* | .23* | .30** | -.25* | .16 | -.39** | -.37** | -.36** | -.41** | -.29** | -.44** |
| *Theft* | .26* | .19 | .23* | -.06 | .21* | -.23* | -.19 | -.25* | -.16 | -.12 | -.15 |
| *Withdrawal* | .30** | .22* | .30** | .03 | .23* | -.13 | -.08 | -.16 | -.06 | -.12 | .03 |

Table 29 – continued

*Intercorrelation Matrix of Aggression and Other Constructs- Korean Replication*

| | Consc. | *Industr.* | *Order.* | Job Satis. | *Job in General* | *People* | *Work* | *Pay* | *Promot.* | *Superv.* | Org. Justice |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Org. Justice Perceptions | .23* | .22* | .22* | .53** | .32** | .30** | .33** | .41** | .44** | .49** | |
| *Distributive Justice* | .18 | .21* | .13 | .50** | .34** | .31** | .30** | .42** | .37** | .37** | .85** |
| *Procedural Justice* | .19 | .17 | .19 | .50** | .28** | .27** | .29** | .38** | .45** | .52** | .95** |
| *Interactional Justice* | .27** | .22* | .28** | .44** | .24* | .22* | .31** | .32** | .38** | .44** | .91** |
| CWB | -.23* | -.21* | -.22* | -.22* | -.31** | -.25* | -.35** | -.11 | -.12 | -.24* | -.11 |
| *Abuse* | -.16 | -.14 | -.15 | -.15 | -.29** | -.22* | -.31** | -.07 | -.06 | -.21* | -.09 |
| *Production Deviance* | -.23* | -.22* | -.20 | -.24* | -.31** | -.28** | -.34** | -.12 | -.11 | -.25* | -.10 |
| *Sabotage* | -.44** | -.43** | -.39** | -.29** | -.42** | -.30** | -.36** | -.13 | -.12 | -.17 | -.13 |
| *Theft* | -.19 | -.18 | -.17 | -.18 | -.29** | -.20 | -.32** | -.09 | -.11 | -.23* | -.07 |
| *Withdrawal* | -.15 | -.13 | -.16 | -.14 | -.09 | -.13 | -.21* | -.13 | -.13 | -.21* | -.13 |

Table 29 – continued

*Intercorrelation Matrix of Aggression and Other Constructs- Korean Replication*

| | *Distrib. Justice* | *Interact. Justice* | *Proced. Justice* | CWB | *Abuse* | *Produc. Dev.* | *Sabot.* | *Theft* | *Withdr.* |
|---|---|---|---|---|---|---|---|---|---|
| Org. Justice Perceptions | .86** | .94** | .96** | -.25 | -.24 | -.22 | -.16 | -.26 | -.16 |
| *Distributive Justice* | | .67** | .73** | -.26 | -.26 | -.22 | -.27 | -.21 | -.10 |
| *Procedural Justice* | .70** | .92** | | -.26 | -.25 | -.23 | -.13 | -.28 | -.18 |
| *Interactional Justice* | .60** | | .88** | -.18 | -.16 | -.15 | -.06 | -.22 | -.17 |
| CWB | -.04 | -.15 | -.13 | | .96** | .82** | .80** | .82** | .77** |
| *Abuse* | -.01 | -.11 | -.12 | .94** | | .73** | .70** | .74** | .67** |
| *Production Deviance* | -.05 | -.11 | -.11 | .91** | .81** | | .76** | .56** | .60** |
| *Sabotage* | -.14 | -.11 | -.10 | .69** | .53** | .70** | | .60** | .46** |
| *Theft* | .04 | -.12 | -.10 | .95** | .91** | .85** | .60** | | .54** |
| *Withdrawal* | -.06 | -.17 | -.12 | .69** | .46** | .64** | .46** | .57** | |

Notes. Correlations above the diagonal are for the sample of aggression with intent to harm included (pairwise *N* ranged from 101 to 118); correlations below the diagonal are for aggression with no intent included (pairwise *N* ranged from 96 to 115). * = $p < .05$; ** = $p < .01$. Correlations between aggression and other constructs are presented in Table 3. Correlations are not corrected for unreliability.

Table 30

*Predicting Enacted Aggression (IWAS-A): Regression and Relative Importance Analysis- Korean Replication*

| | Intent Condition | | | | | |
|---|---|---|---|---|---|---|
| | Model 1, *N* = 105 | | | Model 2, *N* = 105 | | |
| Predictor | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) |
| IWAS-V | .46** | .34 | 64.8% | -- | -- | -- |
| Negative Affect | .02 | .05 | 8.9% | .07 | .07 | 25.9% |
| Positive Affect | .01 | .01 | 1.2% | .02 | .01 | 3.6% |
| Trait Anger | .06* | .07 | 12.4% | .09** | .09 | 35.3% |
| Emotional Stability | -.02 | .03 | 6.3% | -.02 | .04 | 16.3% |
| Agreeableness | .03 | .01 | 1.3% | .07 | .01 | 5.3% |
| Conscientiousness | -.03 | .02 | 2.9% | -.06 | .02 | 7.9% |
| Job Satisfaction | .02 | .01 | 1.6% | .01 | .01 | 3.6% |
| Org. Justice Perceptions | -.01 | .00 | 0.6% | -.03 | .01 | 2.0% |
| Model Adjusted *R*2 | .48 | | | .19 | | |
| Model *F*-statistic | 11.85** | | | 4.10** | | |

Table 30 – continued

*Predicting Enacted Aggression (IWAS-A): Regression and Relative Importance Analysis- Korean Replication*

| | No Intent Condition | | | | | |
|---|---|---|---|---|---|---|
| | Model 1, *N* = 102 | | | Model 2, *N* = 102 | | |
| Predictor | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) |
| IWAS-V | .32** | .18 | 38.2% | -- | -- | -- |
| Negative Affect | .15** | .12 | 25.0% | .19** | .15 | 39.4% |
| Positive Affect | -.05 | .01 | 1.4% | -.06 | .01 | 1.9% |
| Trait Anger | .05 | .05 | 10.7% | .12** | .08 | 21.8% |
| Emotional Stability | .14** | .03 | 6.4% | .17** | .04 | 9.8% |
| Agreeableness | -.07 | .04 | 9.6% | -.11* | .06 | 15.8% |
| Conscientiousness | -.05 | .02 | 5.2% | -.03 | .02 | 5.7% |
| Job Satisfaction | .05 | .01 | 2.2% | .08* | .02 | 4.4% |
| Org. Justice Perceptions | .03 | .01 | 1.1% | .00 | .00 | 1.1% |
| Model Adjusted *R*2 | .41 | | | .33 | | |
| Model *F*-statistic | 8.90** | | | 7.28** | | |

Table 31

*Predicting Experienced Aggression (IWAS-V): Regression and Relative Importance Analysis- Korean Replication*

| | Intent Condition | | | | | |
|---|---|---|---|---|---|---|
| | Model 1, *N* = 105 | | | Model 2, *N* = 105 | | |
| Predictor | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) |
| IWAS-A | .80** | .36 | 74.7% | -- | -- | -- |
| Negative Affect | .04 | .04 | 8.7% | .10 | .06 | 33.8% |
| Positive Affect | .00 | .00 | 0.7% | .01 | .01 | 2.8% |
| Trait Anger | .00 | .03 | 5.7% | .08 | .05 | 24.8% |
| Emotional Stability | .01 | .02 | 3.7% | .00 | .02 | 13.2% |
| Agreeableness | .04 | .01 | 1.9% | .09 | .02 | 9.4% |
| Conscientiousness | .00 | .00 | 0.9% | -.05 | .01 | 4.0% |
| Job Satisfaction | -.03 | .02 | 3.2% | -.03 | .02 | 9.7% |
| Org. Justice Perceptions | -.01 | .00 | 0.6% | -.03 | .00 | 2.4% |
| Model Adjusted *R*2 | .43 | | | .11 | | |
| Model *F*-statistic | 9.89** | | | 2.68* | | |

Table 31 – continued

*Predicting Experienced Aggression (IWAS-V): Regression and Relative Importance Analysis- Korean Replication*

| | No Intent Condition | | | | | |
|---|---|---|---|---|---|---|
| | Model 1, *N* = 102 | | | Model 2, *N* = 102 | | |
| Predictor | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) | Linear Regression Weight | LMG (Proportion) | Relative Importance (Percent) |
| IWAS-A | .41** | .17 | 34.9% | -- | -- | -- |
| Negative Affect | .04 | .05 | 9.1% | .12** | .07 | 16.7% |
| Positive Affect | .00 | .01 | 2.1% | -.02 | .01 | 2.7% |
| Trait Anger | .15** | .16 | 31.4% | .20** | .20 | 47.7% |
| Emotional Stability | .03 | .02 | 4.0% | .10 | .03 | 6.2% |
| Agreeableness | -.08 | .04 | 7.9% | -.12* | .05 | 13.0% |
| Conscientiousness | .08 | .01 | 3.0% | .07 | .01 | 3.0% |
| Job Satisfaction | .06 | .01 | 1.9% | .10* | .02 | 3.8% |
| Org. Justice Perceptions | -.07* | .03 | 5.7% | -.07 | .03 | 7.0% |
| Model Adjusted *R*2 | .45 | | | .37 | | |
| Model *F*-statistic | 10.05** | | | 8.42** | | |

Table 32
*Aggression Facet Validities- Korean Replication*

| | Intent Items | | | | | |
|---|---|---|---|---|---|---|
| | Aggressor-Verbal | Victim-Verbal | Agg.-Social Undermining | Victim-Social Undermining | Aggressor-Physical | Victim-Physical |
| Negative Affect | .35 (.38)** | .33 (.35)** | .40 (.47)** | .36 (.40)** | .13 (.16) | .23 (.26)* |
| Positive Affect | .09 (.11) | .08 (.08) | .13 (.17) | .10 (.12) | .01 (.01) | .07 (.08) |
| Trait Anger | .34 (.37)** | .32 (.35)** | .39 (.46)** | .26 (.29)** | .07 (.09) | .25 (.29)** |
| Emotional Stability | -.28 (-.31)** | -.24 (-.26)* | -.35 (-.42)** | -.25 (-.29)** | -.15 (-.19) | -.19 (-.22) |
| *Withdrawal* | -.23 (-.28)* | -.23 (-.26)* | -.33 (-.41)** | -.25 (-.30)* | -.17 (-.22) | -.14 (-.17) |
| *Volatility* | -.28 (-.33)** | -.23 (-.26)* | -.33 (-.41)** | -.23 (-.27)* | -.11 (-.15) | -.21 (-.26)* |
| Agreeableness | -.04 (-.05) | .02 (.02) | -.16 (-.20) | -.03 (-.04) | -.28 (-.37)** | -.18 (-.22) |
| *Compassion* | -.03 (-.04) | .01 (.02) | -.16 (-.20) | -.07 (-.09) | -.22 (-.30)* | -.12 (-.15) |
| *Politeness* | -.04 (-.05) | .02 (.03) | -.11 (-.16) | .02 (.03) | -.26 (-.41)** | -.19 (-.28)* |
| Conscientiousness | -.16 (-.18) | -.09 (-.09) | -.25 (-.31)** | -.14 (-.17) | -.28 (-.36)** | -.10 (-.12) |
| *Industriousness* | -.15 (-.18) | -.11 (-.13) | -.27 (-.34)** | -.14 (-.17) | -.20 (-.27)* | -.11 (-.14) |
| *Orderliness* | -.13 (-.16) | -.04 (-.05) | -.20 (-.25)* | -.12 (-.15) | -.30 (-.40)** | -.08 (-.10) |
| Job Satisfaction | -.16 (-.18) | -.18 (-.20) | -.15 (-.18) | -.17 (-.20) | -.06 (-.08) | -.09 (-.10) |
| *Job in General* | -.17 (-.20) | -.14 (-.16) | -.18 (-.22) | -.14 (-.16) | -.08 (-.10) | -.09 (-.11) |
| *People* | -.18 (-.23) | -.15 (-.20) | -.17 (-.24) | -.20 (-.27)* | -.09 (-.13) | -.05 (-.07) |
| *Work* | -.16 (-.18) | -.20 (-.22)* | -.14 (-.17) | -.19 (-.23)* | -.07 (-.10) | -.10 (-.12) |
| *Pay* | .03 (.03) | -.12 (-.14) | .05 (.07) | -.08 (-.10) | .03 (.04) | .04 (.06) |
| *Promotions* | -.02 (-.03) | -.06 (-.09) | .04 (.08) | .01 (.02) | .00 (.00) | -.06 (-.10) |
| *Supervisor* | -.09 (-.12) | -.06 (-.07) | -.17 (-.23) | -.10 (-.13) | -.04 (-.05) | -.09 (-.11) |

Table 32 – continued
*Aggression Facet Validities- Korean Replication*

| | Aggressor-Verbal | Victim-Verbal | Agg.-Social Undermining | Victim-Social Undermining | Aggressor-Physical | Victim-Physical |
|---|---|---|---|---|---|---|
| Org. Justice Perceptions | -.09 (-.10) | -.06 (-.07) | -.07 (-.09) | -.07 (-.08) | .00 (.00) | .02 (.02) |
| *Distributive Justice* | -.03 (-.03) | .00 (.00) | -.04 (-.04) | -.01 (-.02) | -.08 (-.10) | -.01 (-.01) |
| *Procedural Justice* | -.11 (-.12) | -.09 (-.10) | -.10 (-.11) | -.09 (-.10) | .05 (.06) | .00 (.00) |
| *Interactional Justice* | -.11 (-.12) | -.08 (-.09) | -.07 (-.08) | -.09 (-.10) | .03 (.04) | .05 (.05) |
| CWB | .30 (.32)** | .17 (.18) | .39 (.46)** | .29 (.32)** | .17 (.21) | .29 (.32)** |
| *Abuse* | .29 (.32)** | .19 (.21) | .39 (.46)** | .31 (.35)** | .20 (.25)* | .29 (.33)** |
| *Production Deviance* | .33 (.43)** | .11 (.14) | .37 (.52)** | .20 (.27)* | .17 (.25) | .30 (.41)** |
| *Sabotage* | .10 (.12) | -.02 (-.03) | .23 (.30)* | .05 (.06) | .28 (.38)** | .22 (.28)* |
| *Theft* | .17 (.20) | .11 (.13) | .24 (.30)* | .22 (.26)* | .11 (.14) | .17 (.21) |
| *Withdrawal* | .37 (.49)** | .23 (.30)* | .38 (.54)** | .33 (.44)** | -.07 (-.10) | .21 (.29)* |
| | | | No Intent Items | | | |
| Negative Affect | .42 (.47)** | .39 (.42)** | .48 (.58)** | .39 (.44)** | .25 (.31)** | .16 (.18) |
| Positive Affect | .02 (.02) | .08 (.09) | -.08 (-.10) | .06 (.07) | -.17 (-.21) | -.02 (-.02) |
| Trait Anger | .35 (.39)** | .48 (.51)** | .32 (.38)** | .50 (.57)** | .14 (.18) | .14 (.16) |
| Emotional Stability | -.21 (-.24)* | -.26 (-.29)** | -.36 (-.43)** | -.26 (-.30)** | -.30 (-.38)** | -.17 (-.20) |
| *Withdrawal* | -.16 (-.19) | -.20 (-.23)* | -.36 (-.45)** | -.25 (-.29)* | -.31 (-.40)** | -.18 (-.22) |
| *Volatility* | -.24 (-.28)* | -.30 (-.33)** | -.32 (-.40)** | -.25 (-.30)** | -.27 (-.35)** | -.15 (-.18) |
| Agreeableness | -.27 (-.32)** | -.27 (-.30)** | -.46 (-.58)** | -.34 (-.41)** | -.49 (-.64)** | -.30 (-.37)** |
| *Compassion* | -.24 (-.28)* | -.26 (-.29)** | -.34 (-.43)** | -.29 (-.34)** | -.30 (-.40)** | -.17 (-.21) |
| *Politeness* | -.23 (-.31)* | -.20 (-.26)* | -.46 (-.68)** | -.31 (-.43)** | -.58 (-.88)** | -.37 (-.53)** |
| Conscientiousness | -.18 (-.20) | -.10 (-.10) | -.38 (-.46)** | -.15 (-.17) | -.42 (-.53)** | -.25 (-.29)* |

Table 32 – continued
*Aggression Facet Validities- Korean Replication*

| | Aggressor-Verbal | Victim-Verbal | Agg.-Social Undermining | Victim-Social Undermining | Aggressor-Physical | Victim-Physical |
|---|---|---|---|---|---|---|
| *Industriousness* | -.16 (-.19) | -.08 (-.09) | -.36 (-.44)** | -.12 (-.14) | -.40 (-.52)** | -.27 (-.33)** |
| *Orderliness* | -.17 (-.20) | -.10 (-.11) | -.35 (-.43)** | -.16 (-.19) | -.38 (-.50)** | -.19 (-.23) |
| Job Satisfaction | -.01 (-.01) | -.02 (-.02) | -.03 (-.04) | -.07 (-.08) | -.09 (-.11) | -.10 (-.12) |
| *Job in General* | -.05 (-.06) | -.03 (-.03) | -.15 (-.19) | -.09 (-.11) | -.26 (-.33)** | -.18 (-.22) |
| *People* | .02 (.02) | .03 (.03) | -.06 (-.07) | -.06 (-.07) | -.14 (-.19) | -.11 (-.14) |
| *Work* | -.03 (-.03) | -.10 (-.11) | -.08 (-.10) | -.15 (-.18) | -.11 (-.14) | -.19 (-.23)* |
| *Pay* | -.04 (-.05) | -.00 (-.01) | -.04 (-.06) | -.03 (-.04) | -.06 (-.08) | -.12 (-.15) |
| *Promotions* | -.14 (-.19) | -.19 (-.25) | -.03 (-.04) | -.15 (-.20) | -.01 (-.01) | -.09 (-.12) |
| *Supervisor* | -.08 (-.10) | .04 (.05) | .04 (.05) | -.03 (-.04) | -.07 (-.10) | -.02 (-.02) |
| Org. Justice Perceptions | -.13 (-.14) | -.22 (-.23)* | -.08 (-.09) | -.25 (-.28)** | -.05 (-.07) | -.10 (-.12) |
| *Distributive Justice* | -.06 (-.07) | -.21 (-.23)* | -.07 (-.08) | -.34 (-.39)** | -.06 (-.08) | -.18 (-.20) |
| *Procedural Justice* | -.13 (-.15) | -.18 (-.20) | -.04 (-.05) | -.16 (-.18) | -.00 (-.01) | -.07 (-.08) |
| *Interactional Justice* | -.16 (-.17) | -.21 (-.22)* | -.11 (-.12) | -.17 (-.19) | -.08 (-.09) | -.03 (-.03) |
| CWB | .30 (.33)** | .18 (.19) | .27 (.31)** | .28 (.31)** | .21 (.25)* | .29 (.33)** |
| *Abuse* | .27 (.29)** | .17 (.18) | .22 (.26)* | .23 (.25)* | .20 (.24)* | .24 (.27)* |
| *Production Deviance* | .23 (.29)* | .10 (.12) | .25 (.35)* | .24 (.31)* | .18 (.26) | .28 (.37)** |
| *Sabotage* | .14 (.18) | .13 (.16) | .34 (.46)** | .28 (.35)** | .40 (.55)** | .44 (.56)** |
| *Theft* | .25 (.28)* | .16 (.18) | .21 (.25)* | .19 (.22) | .17 (.21) | .23 (.27)* |
| *Withdrawal* | .34 (.41)** | .17 (.20) | .20 (.26)* | .27 (.33)** | .00 (.00) | .15 (.19) |

*Notes* * = $p < .05$; ** = $p < .01$. Significance values apply to both uncorrected and corrected correlations. Intent condition pairwise $N$ = 103-118. No intent condition pairwise $N$ = 97-112. Correlations outside parentheses are uncorrected; correlations inside parentheses are corrected for unreliability in both variables.

Table 33

*IWAS Facet Intercorrelation Matrix- Korean Replication*

| | IWAS-A | IWAS-V | Agg.-Verbal | Vic.-Verbal | Agg.-Social Undermining | Vic.-Social Undermining | Agg.-Physical | Vic.-Physical |
|---|---|---|---|---|---|---|---|---|
| IWAS-A | | .69** | .95** | .93** | .50** | .67** | .68** | .44** |
| IWAS-V | .57** | | .68** | .62** | .25* | .97** | .95** | .56** |
| Agg.-Verbal | .95** | .51** | | .80** | .38** | .67** | .63** | .40** |
| Vic.-Verbal | .90** | .56** | .74** | | .51** | .57** | .65** | .40** |
| Agg.-S.U. | .38** | .23* | .20* | .45** | | .21* | .30** | .24* |
| Vic.-S.U. | .49** | .96** | .45** | .47** | 0.14 | | .88** | .49** |
| Agg.-Physical | .59** | .94** | .52** | .59** | .23* | .81** | | .47** |
| Vic.-Physical | .20* | .41** | 0.1 | .26** | .55** | .30** | .39** | |

*Notes.* S. U. = Social Undermining. Correlations above the diagonal are for the sample of aggression with intent to harm included ($N$ = 118); correlations below the diagonal are for aggression with no intent included (pairwise $N$ = 115). Correlations are not corrected for unreliability.

Figure 1
*Parallel Analysis of Full Aggression Intent Pools- Aggressor (left) and Victim (right)*

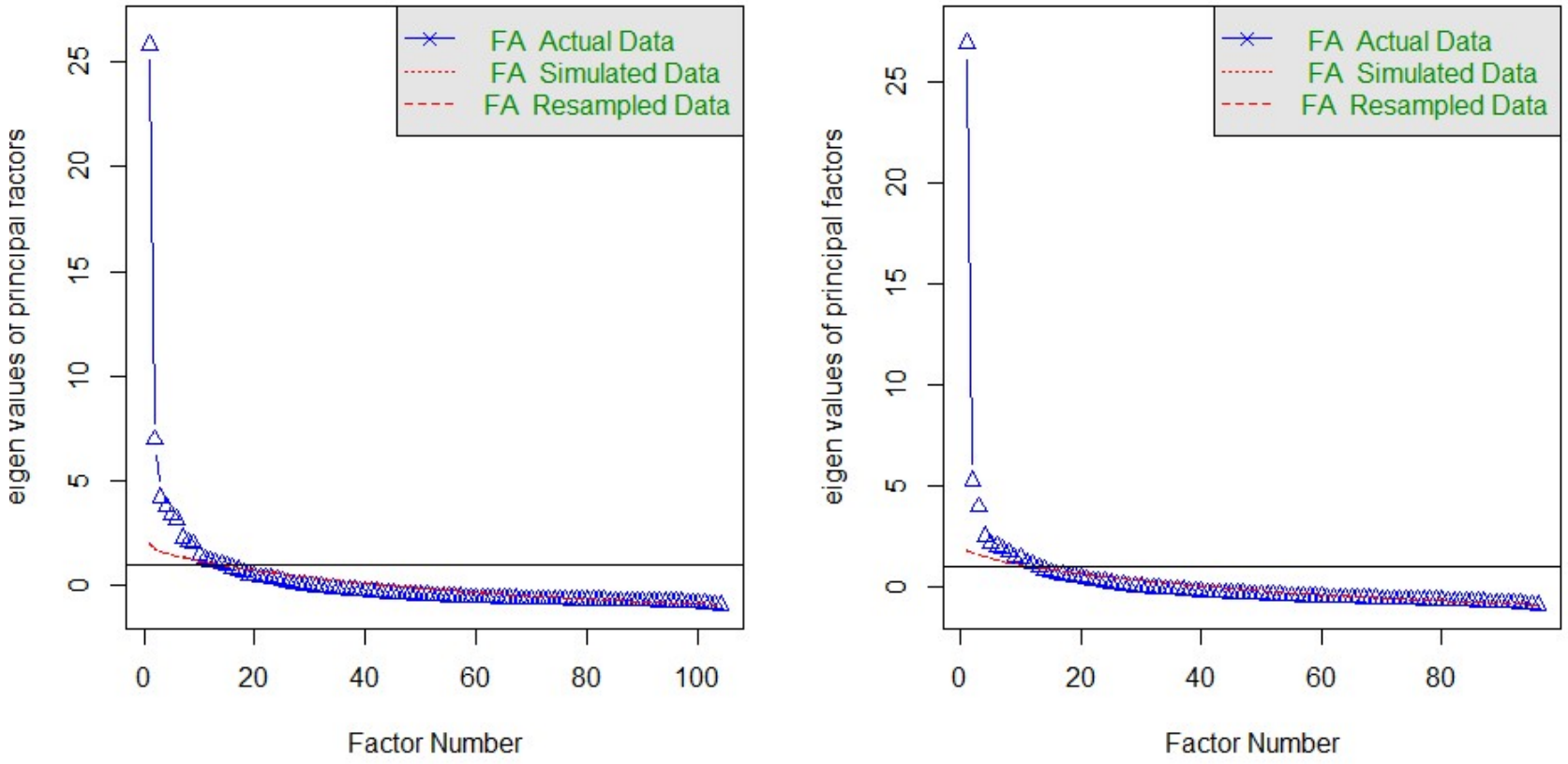


Figure 2
*Parallel Analysis of the IWAS-A (left) and IWAS-V (right)*

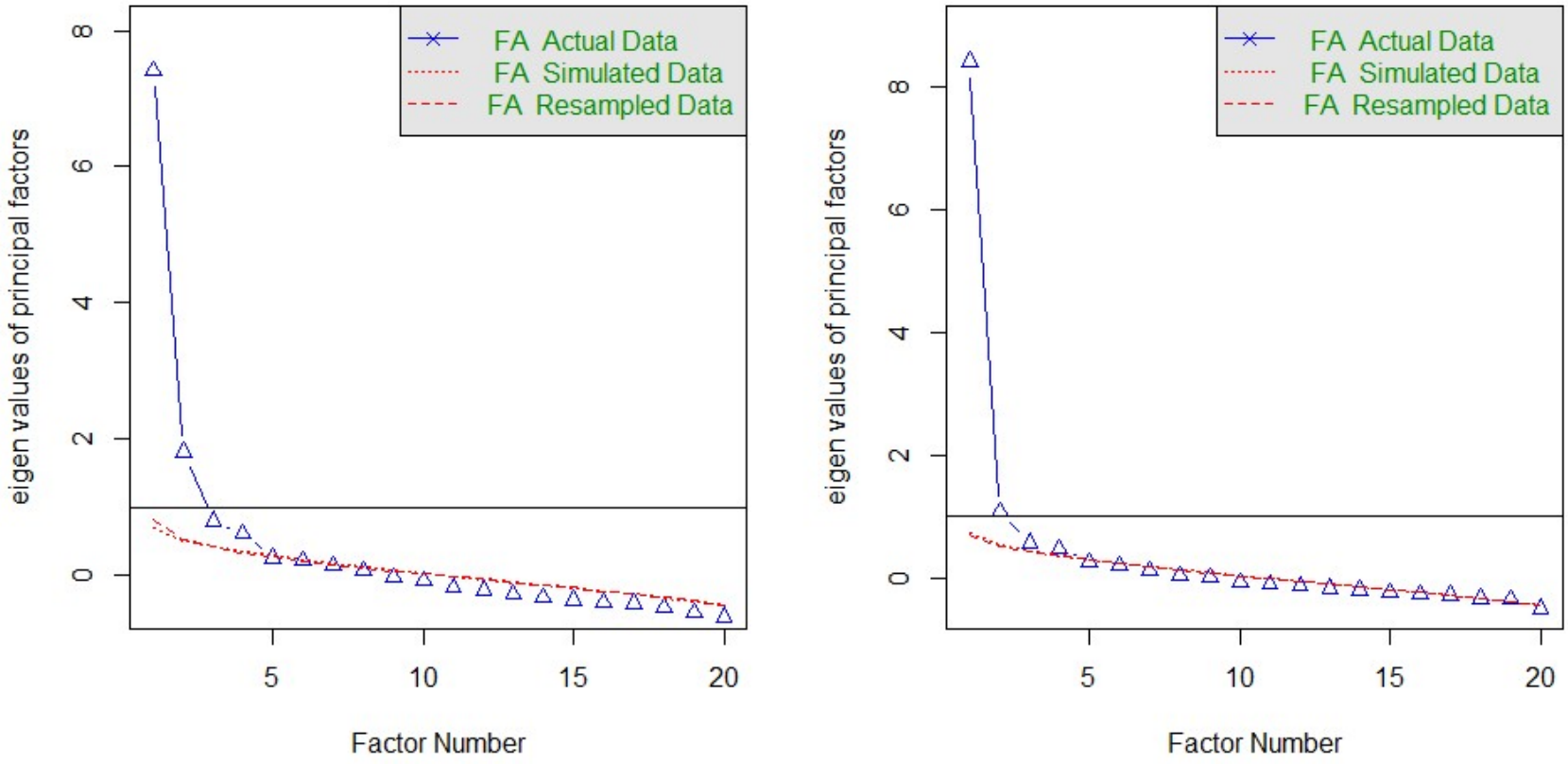


Figure 3
*IWAS Facet Scale Means: Intent (top) and No Intent (bottom) Conditions*

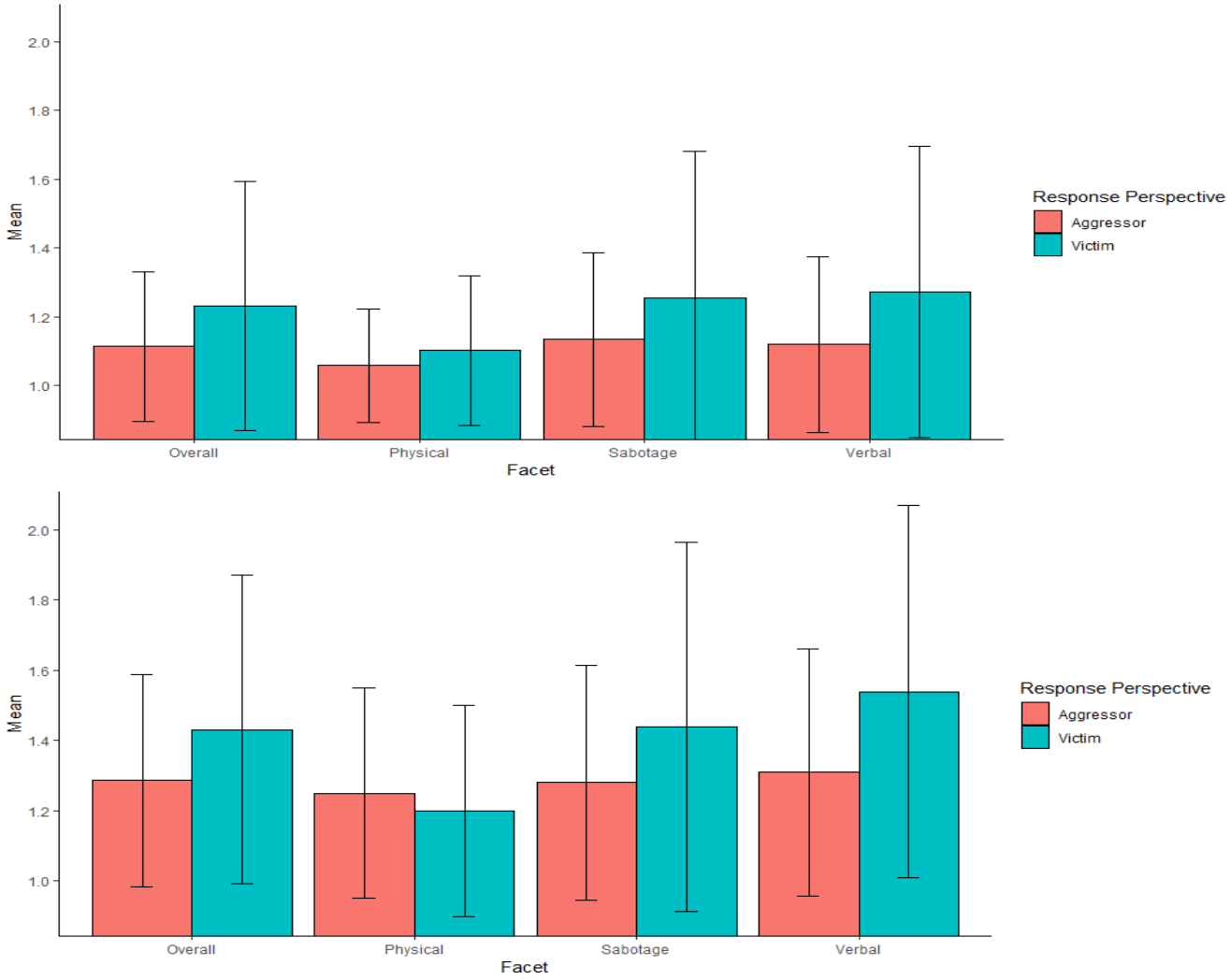
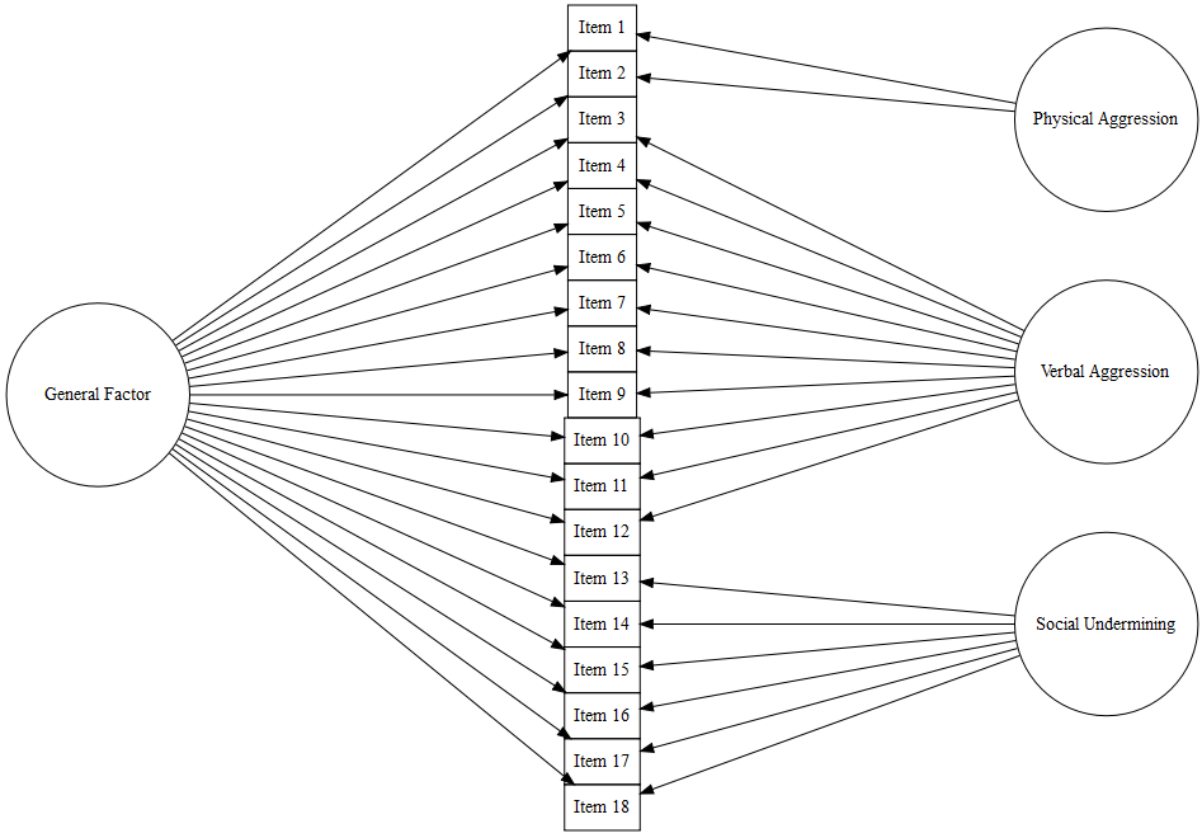


Figure 4
*Proposed IWAS Bifactor Model*




*Notes*. Refer to Tables 14 and 15 for item to facet mappings.

Figure 5
*IWAS Facet Scale Means: Intent (top) and No Intent (bottom) Conditions- Korean Replication*